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Metropolitan Sanitary District of Greater Chicago Des Plaines - O'Hare Water Reclamation Plant and Solids Pipeline. Volume I

Environmental Protection Agency, Chicago, Ill.

May 75

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PB 263 328

METROPOLITAN SANITARY DISTRICT
OF
GREATER CHICAGO

O'HARE WATER RECLAMATION PLANT AND SOLIDS PIPELINE

FINAL VOL. I

ENVIRONMENTAL IMPACT STATEMENT
MAY 1975

Prepared by:
US ENVIRONMENTAL PROTECTION AGENCY
REGION V
Chicago, Illinois

REPRODUCED BY
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SPRINGFIELD, VA. 22161

FINAL ENVIRONMENTAL IMPACT STATEMENT
FOR THE
METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO
DES PLAINES - O'HARE WATER RECLAMATION PLANT
AND SOLIDS PIPELINE

PREPARED BY THE
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V
CHICAGO, ILLINOIS

VOLUME I

APPROVED BY:

Francis T. Mayo
FRANCIS T. MAYO
REGIONAL ADMINISTRATOR

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The proposed O'Hare Water Reclamation Plant (WRP) is designed as a two stage process in which carbonaceous biochemical oxygen demand (BOD) and ammonia-nitrogen are removed in two separate sets of aeration and sedimentation tank modules. Final effluent polishing and disinfection are to be accomplished by dual media filters and injection of sodium hypochlorite. Post-aeration is to be employed to raise the dissolved oxygen content of the plant effluent prior to discharge to Higgins Creek. Process solids remaining would be transported via a pipeline to the MSDGC Salt Creek WRP for further treatment.

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SUMMARY SHEET

1. Name of Action (Check One)

    Administrative Action (X)
    Legislative Action ( )

2. Brief description of action indicating what States (and Counties) are particularly affected.

The proposed O'Hare Water Reclamation Plant (WRP) is designed as a two stage process in which carbonaceous biochemical oxygen demand (BOD) and ammonia-nitrogen are removed in two separate sets of aeration and sedimentation tank modules. Final effluent polishing and disinfection are to be accomplished by dual media filters and injection of sodium hypochlorite. Post-aeration is to be employed to raise the dissolved oxygen content of the plant effluent prior to discharge to Higgins Creek. Process solids remaining would be transported via a pipeline to the MSDGC Salt Creek WRP for further treatment.

The proposed Water Reclamation Plant will receive sanitary and combined sewage flows via a deep tunnel conveyance system (see the EIS on the Des Plaines-O'Hare Conveyance System) from the following communities: Arlington Heights, Buffalo Grove, Des Plaines, Elk Grove Village, Mount Prospect, Prospect Heights, Rolling Meadows, and Wheeling, Illinois. The O'Hare Service Area is located in Cook County, Illinois.

3. Summary of environmental impact and adverse environmental effects.

    A. Construction Impacts

        1) Air Quality

Dust resulting from construction activities will be minimized by using hard paved surfaces and dust control measures.

2) Operation of construction equipment powered by internal combustion engines will temporarily add to the air pollutant loading. It is not anticipated that this would result in a significant temporary change in ambient air quality.

3) Water Quality and Quantity

Increased siltation and temporary flow interruption may occur during relocation and channelization of Higgins Creek.

4) Noise and Vibration

Heavy machinery, trucks and other vehicles will be operated during hours which cause minimum disturbance to residential area.

B. Operational Impacts

1) Air Quality

a) Occasional odors may be detected from the proposed WRP. These are expected to be infrequent due to odor control measures and the absence of sludge processing facilities.

b) The Water Reclamation processing facilities, will generate a limited quantity aerosols containing bacteria and virus particles. The present state of knowledge indicates that there is no demonstratable health hazard associated with these aerosols. (See Chapters 3,5, and the Appendices for detailed discussion). However, as a precautionary measure to mitigate the potential health hazard risk we shall require that the MSDGC design, construct and maintain facilities to adequately suppress, to the satisfaction of IEPA and USEPA, the movement of aerosols, emanating from the aeration tanks on the proposed site.

2) Water Quality and Quantity Impacts

a) The proposed WRP is designed to discharge a high quality effluent of BOD_5 (4 mg/l) SS(5mg/l) and NH_3-N (1.5 mg/l). The effluent flow in the design year is projected to be 72MGD.

b) Combined sewage overflows to Weller's Creek and Feehanville Ditch will be reduced from approximately 80 to 6 flows a year. This will result in a 92% BOD reduction and 75% flow reduction in combined sewage waste overflows. The high percentage of BOD reduction is achieved through capture of the "first flush" storm flows.

4. Alternatives Considered

a) Service Area Alternatives
b) Capacity of the Proposed WRP
c) Nine site locations for the WRP
d) Underground, at grade, and at grade covered facilities
e) Sewage treatment processes
f) Sludge processes and disposal alternatives

5. The follwing Federal State and local agencies have been requested to comment on the Draft Environmental Impact Statement:

Council of Environmental Quality
Department of Agriculture
  Soil Conservation Service
U.S. Army Corps of Engineers
  North Central Division
  Chicago District
Department of Health, Education and Welfare
Department of Housing and Urban Development
Department of the Interior
  Bureau of Outdoor Recreation
  Fish and Wildlife Service
  Geological Survey
Department of Transportation
  Federal Aviation Administration
Energy Research and Development Administration
  Argonne National Laboratory

Governor of Illinois
Illinois Environmental Protection Agency
Illinois Institute for Environmental Quality
Illinois Division of Waterways
Illinois Department of Conservation
Illinois Department of Public Health

Northeastern Illinois Planning Commission
Cook County Department of Environmental Control
Metropolitan Sanitary District of Greater Chicago

City of Des Plaines
Village of Elk Grove
Village of Arlington Heights
Village of Mount Prospect
Village of Palatine
Village of Wheeling

Others

6. Irreversible and Irretrievable commitment of resources.

Class I	Labor and energy expended in construction of the proposed facilities.
Class II	Land use of the proposed site for a WRP over the useful life of the proposed facilities and associated operation and maintenance expenditures, of energy, chemicals, and materials.

Acknowledgement

Portions of this Environmental Impact Statement were taken directly from the Environment Assessment prepared by the MSDGC (November, 1974), and the "Facilities Planning Study - MSDGC Overview Report" and "O'Hare Facility Area" (January, 1975) also prepared by the MSDGC.

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C - O'Hare Service Area Determination
D - Health Questionnaire and Responses
E - Geology
F - Regional Water Resources
G - Water Conservation and Re-use Measures
H - MSDGC--Justification of Ultimate Size
I - MSDGC--Position Paper on Health Aspects
J - MSDGC--Odor Control Measures
K - Letter from Bart T. Lynam to Francis T. Mayo
L - Process Alternatives: Land Application
M - Solids Handling Alternatives
N - Design Criteria--O'Hare Water Reclamation Plant
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P - MSDGC--Flow Projections
Q - Additional Site Information
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T - Water Quality Data
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CHAPTER 1

BACKGROUND

A. Identification of Grant Applicant and Planners

The grant applicant for the proposed Upper Des Plaines Water Reclamation Plant and Solids Pipeline is the Metropolitan Sanitary District of Greater Chicago. The Facilities Planning Report for the Metropolitan Sanitary District of Greater Chicago is comprised of eight separate reports. These reports consist of an overview report and individual reports for the seven facilities areas.

B. Description of the Proposed Action

The proposed O'Hare Water Reclamation Plant will be designed as a two stage activated sludge process. Carbonaceous matter will be removed in the first stage followed by biological oxidation of ammonia to nitrite and nitrate in the second stage. Final effluent polishing and disinfection prior to discharge into the re-routed Higgins Creek will be accomplished by dual media filters and sodium hypochlorite, respectively. The O'Hare WRP will also provide complete treatment for combined sewer overflows entrapped and stored by the O'Hare Tunnel Conveyance System. All of the waste activated sludge generated in this plant will be pumped via force main to the John E. Egan WRP (Salt Creek) for treatment and disposal. The projected average dry weather flow by the year 2000 is 72 MGD.

C. General and Specific Location of the Proposed Action

The Upper Des Plaines Service Area,an area of 65.2 square miles , is located in the northwest portion of the Metropolitan Sanitary District, shown in Figures 1-1 and 1-2. This area is predominantly residential in character. Growth of the area has been stimulated by several factors. Among the more significant of these is the proximity of O'Hare Airport, the Northwest Tollway, the Tri-State Tollway, and the Chicago and North Western Railway's tracks which bisect the basin in a northwesterly direction.

The area includes the communities of Arlington Heights, Mount Prospect, Prospect Heights, Wheeling, and a part of the City of Des Plaines as well as newer urban developments such as Elk Grove Village, Rolling Meadows and Buffalo Grove. As illustrated in Figure 1-1, the boundaries encompass an area which lies generally west of the Des Plaines River. Several major drainage courses traverse the basin in a generally east-west direction and empty into the Des Plaines River. Two of the waterways are of concern, since they receive combined sewer overflows even during low intensity storms. They are the Weller's Creek and Feehanville Ditch areas. No other waterways within the Upper Des Plaines River Basin receive combined overflows.

D. Water Quality and Water Quantity Problems in the Area

1. Sources of Water Supply in the Service Area

There are three water supply sources to the service area:

a. Groundwater from shallow glacial-till Silurian aquifer. The well records indicate that the majority of wells in the shallow aquifer are private domestic service with pumpout rates between 5 to 50 gpm.

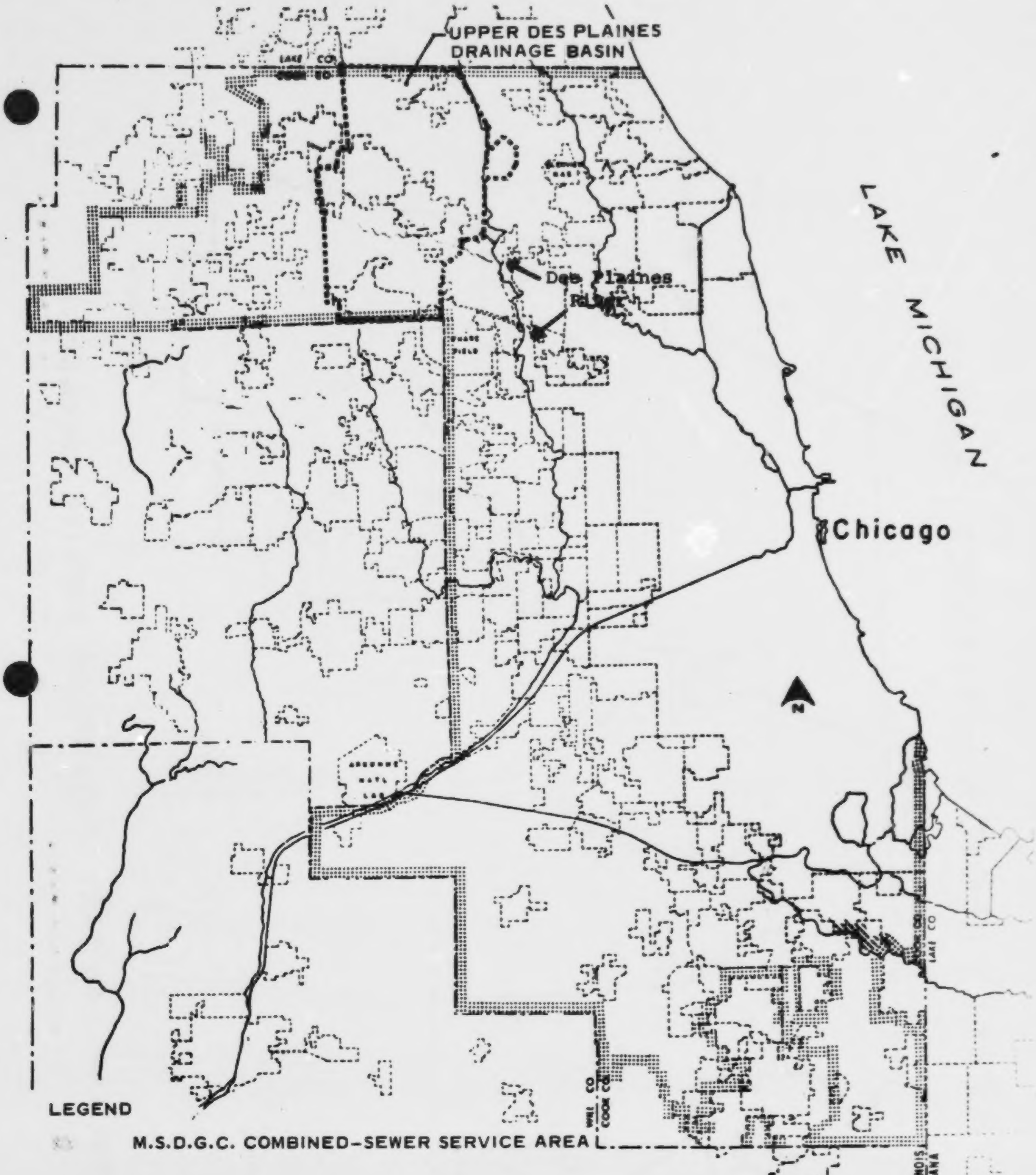
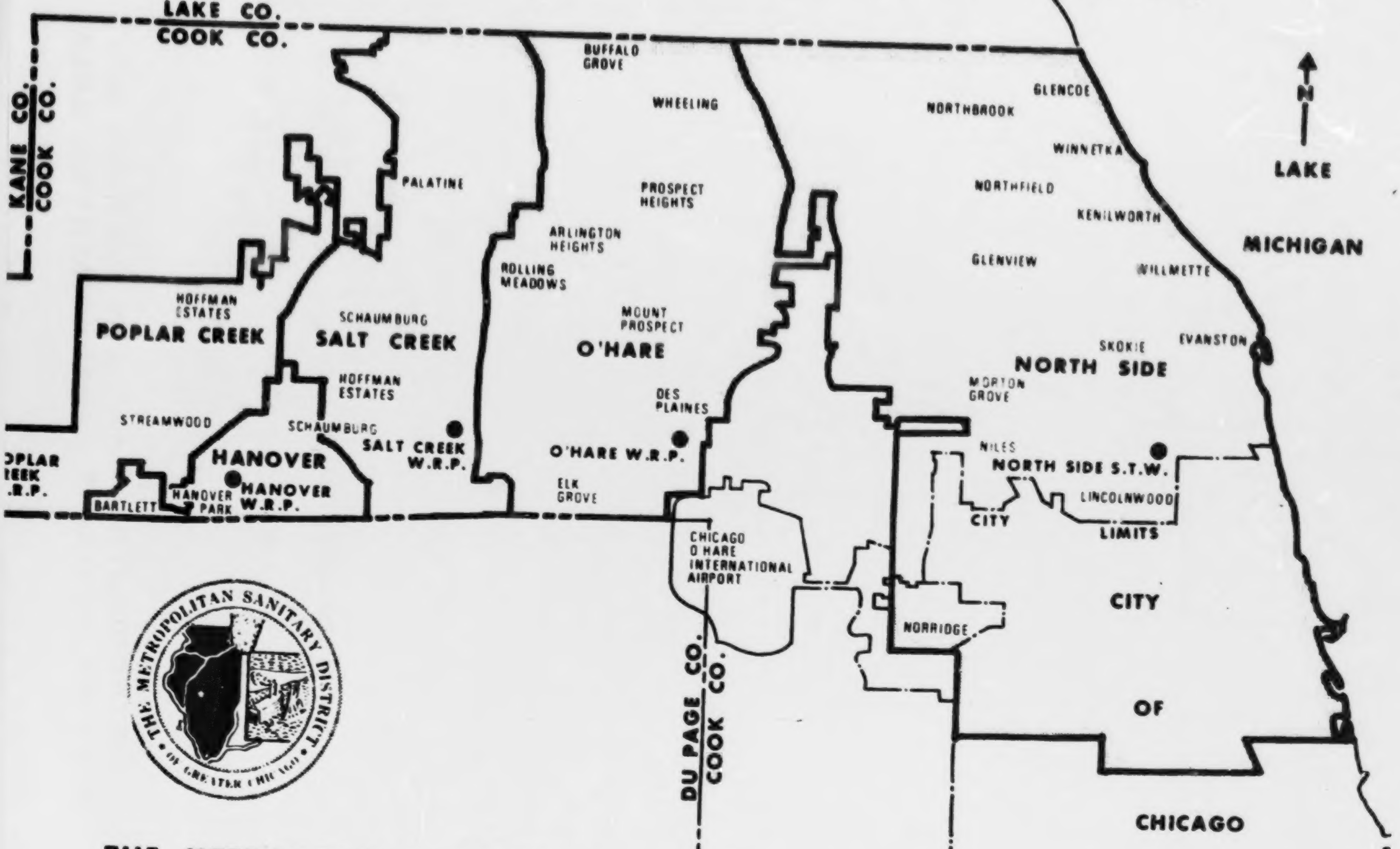

UPPER DES PLAINES
DRAINAGE BASIN
LAKE CO.
COOK CO.
Des Plaines
River
LAKE MICHIGAN
Chicago
N
WILL CO.
COOK CO.
ILLINOIS
INDIANA
COOK CO.
LAKE CO.
LEGEND
M.S.D.G.C. COMBINED-SEWER SERVICE AREA

FIGURE 1-1

METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO GENERAL SERVICE AREA

NORTHWEST REGION – SERVICE AREAS


LAKE CO.
COOK CO.
KANE CO.
COOK CO.
N
LAKE
MICHIGAN
BUFFALO GROVE
WHEELING
NORTHBROOK
GLENCOE
WINNETKA
NORTHFIELD
KENILWORTH
GLENVIEW
WILLMETTE
PALATINE
PROSPECT HEIGHTS
ARLINGTON HEIGHTS
ROLLING MEADOWS
MOUNT PROSPECT
HOFFMAN ESTATES
SCHAUMBURG
POPLAR CREEK
SALT CREEK
O'HARE
SKOKIE
EVANSTON
NORTH SIDE
MORTON GROVE
HOFFMAN ESTATES
DES PLAINES
STREAMWOOD
SCHAUMBURG
SALT CREEK W.R.P.
O'HARE W.R.P.
NILES
NORTH SIDE S.T.W.
HANOVER
OPLAR
EEK
.R.P.
HANOVER W.R.P.
HANOVER PARK
BARTLETT
ELK GROVE
LINCOLNWOOD
CITY
LIMITS
CHICAGO O HARE INTERNATIONAL AIRPORT
CITY
NORRIDGE
DU PAGE CO.
COOK CO.
OF
CHICAGO

THE METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO

b. Groundwater from the deeper Cambrian-Ordivician aquifer. The pumpage rate in the region of the project has reportedly exceeded the sustained yield of the Cambrian-Ordivician acquifer which has resulted in a decline of the piezometric head averaging about 10-15 feet/year in the project area. The municipal and industrial pumpate appears to be from the deep aquifer which estimated on population, may have amounted to 20 to 25 MGD for 1970 in the project area.

c. Surface water from Lake Michigan. It is anticipated that larger quantities of Lake Michigan water will be made available to municipalities outside of Chicago in the future to limit the pumpage rates to the practical sustained yield in the project area. Des Plaines presently obtains 70 percent of its water from Lake Michigan through the City of Chicago System.

For a more detailed discussion of water supply issues, see REGIONAL WATER SUPPLY REPORT #8, NortheasternIllinois Planning Commission, September, 1974.

2. Sanitary and Combined Sewers

Approximately 5,000 acres of the 41,760 acres in the Upper Des Plaines Basin are expected to remain undeveloped and unsewered. This 5,000 acre area consists of special use land such as the Ned Brown Forest Preserve, cemeteries and the U.S. Military Reservations. Of the remaining 36,760 acres, 29, 382 acres are presently (or will be in the near future) serviced by separate sanitary and storm sewers, and 5,952 acres are serviced by combined sewers. In addition, there are 1,370 acres of separate sewered areas that connect directly to the combined sewer systems in such a way that the flows cannot be physically separated except through extensive and costly construction. Figure 1-3 illustrates the area contributing combined overflows to the Upper Des Plaines project. Those areas indicated are: 1) the combined sewered area, 2) the separated sewer area contributing to the project, and 3) the boundaries of all sewered areas contributing to Weller's Creek and Feehanville Ditch. There are about 5,448 acres within the boundary of the sewered area contributing to Weller's Creek and Feehanville Ditch that are served by separate sewer systems. The storm flows from these areas will continue to discharge directly into Weller's Creek and Feehanville Ditch and are not a part of the proposed project.

At present all sanitary sewage, and the combined sewage in the O'Hare Service Area, except for overflows, is finding its way into Metropolitan Sanitary District interceptors through regulated control structures, and is diverted through existing interceptors to the MSDGC's North Side Sewage Treatment Works for treatment.

During wet weather, the North Side sewage treatment plant is presently overloaded and existing interceptors are approaching capacity. In addition, there is frequent discharge (average: 80 per year) of combined sewage to Weller's Creek and Feehanville Ditch creating an unsightly, odorous condition, as well as a potential health hazard. This untreated sewage then flows into the Des Plaines River. Weller's Creek serves as the main conveyance

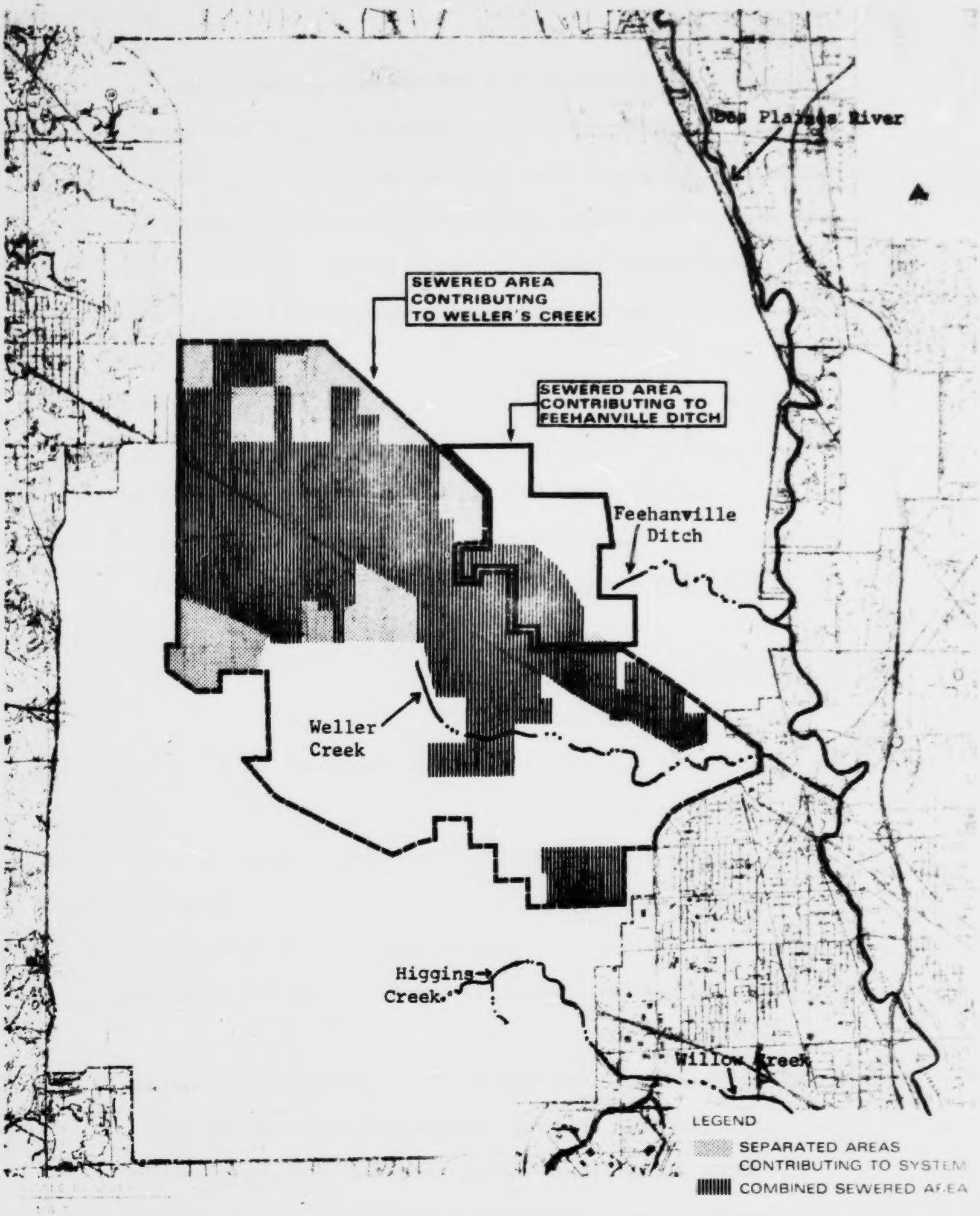

Des Plaines River
SEWERED AREA CONTRIBUTING TO WELLER'S CREEK
SEWERED AREA CONTRIBUTING TO FEEHANVILLE DITCH
Feehanville Ditch
Weller Creek
Higgins Creek
Willow Creek
LEGEND
SEPARATED AREAS CONTRIBUTING TO SYSTEM
COMBINED SEWERED AREA

FIGURE 1-3

COMBINED-SEWER SERVICE AREA

facility for the discharge from combined sewers serving the watershed. Backup in the combined sewers is the primary cause for basement flooding. Some homes are affected in this manner from almost all rainfalls in the watershed. Combined backup will flood approximately 100 basements for the 5 to 10-year storm event. Street flooding will begin to appear for this same storm event.

Overbank flooding does not occur until the 25-30-year storm event occurs.

The water quality standards that determine the effluent parameters for the proposed Wastewater Reclamation Plant are found in the WATER POLLUTION REGULATIONS OF ILLINOIS.

E. Water Quality & Water Quantity Objectives in the Area Other Than Solution of Preceding Problems

The following programs are relevant:

1. The Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500) require:
   - a. Secondary treatment of wastes for municipal sewage and best practicable treatment for industrial discharges by July 1, 1977.
   - b. Best practicable waste treatment technology for municipal wastes and best available treatment for industrial wastes by July 1, 1983.
   - c. All point-source discharges require a permit under the NPDES program (National Pollutant Discharge Elimination System). The NPDES permit states the allowable waste loading and flow volume that can be discharged to a receiving stream, lake or ocean.

2. The National Flood Insurance Act of 1968 requires the designation of flood-prone areas in the United States and participation by the appropriate communities and homeowners to quality for national flood insurance protection. The flood-prone areas in the O'Hare service are have been determined for the 100-year storm event and these maps, except for the Arlington Heights quadrangle, are available from the Northeastern Illinois Planning Commission (NIPC).

3. The Flood Control Activities planned by MSDGC for the O'Hare Service Area are discussed in Appendix A.

4. The MSDGC Tunnel and Reservoir Plan (TARP) for control of flood and pollution problems due to combined sewer discharges in the general service area of the MSDGC is described in Appendix B. The U.S. Senate Committee on Public Works (93rd Congress, 1st session) directed the Army Corps of Engineers to determine the Federal interest in participating in the TARP program. Since the Corps viewed any potential Federal participation to be a significant Federal action, they determined that part of their response in determining Federal interest should be the preparation of an Environment Impact Statement (EIS). Prior to the issuance of a draft EIS in November 1972 an Environmental Assessment (EA) on the TARP program was prepared. USEPA participated in discussions during the preparation of that EA and made suggestions with respect to potential environmental impacts to be addressed. A public hearing on the TARP EA was held July 26, 1973, and discussion was presented. The O'Hare Service Area, since it contains some

combined sewers, was considered in all alternative TARP plans. In some TARP alternatives, the O'Hare service area was sewered by tunnels only, with wastewater treatment occurring at the MSD North Side STP or WSW (Stickney) STP. Although this alternative was considered, it was not supported in other engineering studies for the O'Hare Service Area. These reports support a WRP for the O'Hare Service Area and are discussed in Appendix C.

USEPA has determined that an independent area is cost-effective and should be separated from the Mainstream TARP System with respect to building the treatment plant and conveyance system to it. This determination is discussed in Chapter 3. No final determination has been made with respect to building a combined sewage overflow reservior in the O'Hare Service Area because:

a. USEPA is now developing a policy that will address the use of construction grants for treatment and control of combined sewer overflows and stormwater discharges. This policy will also address flood control aspects of such projects and may affect the eligibility of USEPA participation in any proposal reservoir.

b. An initial determination has been made that benefits derived through construction of the reservior can essentially be classifed as flood control, whereas, only marginal benefits, in terms of pollution reduction, would accrue with operation of the reservoir component. This determination will be reviewed after the new policy is finalized and at such time as the project has priority for funding and is otherwise eligible for USEPA participation.

c. Given the highly speculative nature of possible USEPA envolvement in the O'Hare Reservoir component, we believe it inappropraite to reach any final determinations at this time.

The O'Hare Reservoir is now being evaluated by USEPA and the Corps of Engineers as part of a joint effort in determining the level and character of Federal interest in the entire Tunnel and Reservoir program. Once a clear division of responsibilities is defined, either agency will pursue the eligibility aspects related to any possible funding program. The provisions of the National Environmental Policy Act of 1969 would of course apply irrespective of which Federal Agency or program may be deemed to be the appropriate reviewing authority or primarily germane to those aspects of TARP, such as the O'Hare Reservoir, where a clear distinction between flood control and pollution control benefits must be defined and addressed in such a manner that will assure that the limited resources available for pollution abatement are not committed to flood control projects.

An issue related to the considerations above and the present deliniation of the O'Hare Service Area involves the elimination of the Palatine leg of the O'Hare conveyance system. The analysis prepared by the MSDGC and discussed in Appendix B is sufficient to demonstrate that possible excessive inflow and inflitration exists in the Village of Palatine collection system. In other words, it now appears more cost-effective to eliminate the sources of inflow by way of sewer separation than to treat the inflow at the O'Hare WRP. To confirm this initial analysis, the Village will be required to perform a Sewer System Evaluation Survey as described under 40 CFR 35.927-2. The Survey will definitively demonstrate the existance or non-existance of excessive inflow or infiltration. The MSDGC has indicated that the present design of the O'Hare tunnel system will not forego future options with respect to building the Palatine leg. Our analysis confirms this estimate.

In conclusion it is the position of USEPA that the proposed projects will function adequately as a pollution or control system without the construction of the proposed reservoir, and the proposed conveyance system will function as a conventional interceptor with the added benefit of decreasing the major occurences of combined overflow.

F. Costs and Financing

The preliminary cost for the first stage of construction (72 MGD) estimated in July 1974 is $95 million for a Chicago ENR Index of 2290. Of this total 25 percent, $23,750,000, would be financed by MSDGC and 75 percent, $71,250,000, would come from Federal grants.

G. History of the Application

Most MSDGC projects proposed for the O'Hare Service Basin have been given a priority ranking of 31 by the Illinois Environmental Protection Agency (IEPA). The following is a chronological listing of major steps and events in the processing of the MSDGC grant applications.

March 24, 1971 - Letter of Intent to apply for grant funds sent to NIPC and the State Clearinghouse.

March 5, 1973 - IEPA acknowledges receipt of applications.

April 12, 1973 - Environmental Assessment Statement (EAS) sent to IEPA.

September 21, 1973 - Application to USEPA for Demonstration Grant for Engineering and Subsurface Exploration for an Underground Alternate for the O'Hare Plant.

November 20, 1973 - NIPC found proposed Demonstration project to be consistent with comprehensive regional planning.

November 26, 1973 - Meeting held in Washington, D.C. on the Demonstration Grant Application. Outcome was to deny MSDGC a demonstration grant and recommended the MSDGC pursue a conventional construction grant.

December 13, 1973 - MSDGC formally withdrew pending Demonstration Grant Application.

January 7, 1973 - USEPA acknowledges withdrawal of Demonstration Grant Application.

January 11, 1974 - Step 2 grant application sent to IEPA supplementing August 20, 1971 application.

January 31, 1974 - Required Infiltration/Inflow (I/I) Analysis for the O'Hare Basin sent to IEPA.

March 6, 1974 - Receipt of I/I Analysis acknowedged by IEPA.

April 29, 1974 - MSDGC Facilities Plan sent to IEPA and the USEPA.

September 10, 1974 - Received status of grant application from IEPA.

December 1, 1974 - Draft of Environmental Assessment received by USEPA.

December 19, 1974 - MSDGC Public Hearing on the Des Plaines O'Hare projects.

December 23, 1974 - Letter from USEPA to IEPA detailing supplemental information which would need to be provided to complete the environmental assessment.

January 9, 1975 - Draft of MSDGC revised Facilities Planning Study received by the USEPA.

January 13, 1975 - USEPA issued Notices of Intent to prepare draft environmental impact statements for the O'Hare Water Reclamation Plant and its related conveyance system.

February 6, 1975 - USEPA received Revised Environmental Assessment and Responses of the MSDGC to Public Comments.

March 7, 1975 - USEPA distributed Draft Environmental Impact Statements for tunnel conveyance system, water reclamation plant and solids pipeline.

March 31, 1975 - USEPA held a Public Hearing to receive comments on the two Draft Environmental Impact Statements.

CHAPTER 2

THE ENVIRONMENT WITHOUT THE PROPOSED ACTION

A. General

The Upper Des Plaines Service Area, under the jurisdiction of the Metropolitan Sanitary District of Greater Chicago (MSDGC), is located in Northern Cook County, Illinois, within the Chicago SMSA (Standard Metropolitan Statistical Area).

The service area is a 65.2 square mile area in the northwest region of the MSDGC's total jurisdiction of 860 square miles within the County.

The service area has experienced rapid population growth during the last 15 years. The population for Northeastern Illinois increased 12.2% from 1960 to 1970. The following figures for communities to be served by the proposed water reclamation plant (WRP) and tunnel system indicate this growth.

Community	1960	1970	% change
Arlington Heights	27,878	64,884	132.7
Buffalo Grove	1,492	11,799	690.8
Des Plaines	34,886	57,239	64.1
Elk Grove Village	6,608	21,866	231
Mount Prospect	18,906	34,995	85.1
Prospect Heights	...	13,333	...
Rolling Meadows	10,879	19,178	76.3
Wheeling	7,169	14,746	105.7

(All figures from U.S. Dept. of Commerce, Bureau of the Census, publication PC(1)A15-Ill.)

Figure 1-2 indicates the service area and location of the communities. The service area is predominantly residential in character. The area is 60% developed and construction of light industrial facilities and residential units (both single family and multi-family) is ongoing to date. The 1970 population for the area was 223,000. Growth in the area has been encouraged by several factors including the presence of O'Hare Airport, Northwest Tollway, Tri-State Tollway and the North Western Railroad Line.

The economic condition of the area's population is above the Chicago SMSA median family income of $11,841 and State of Illinois Median family income of $10,959.

1970 census figures indicate the following Median family incomes:

Arlington Heights	$17,034
Buffalo Grove	$14,833
Des Plaines	$14,056
Elk Grove Village	$14,155
Mount Prospect	$16,503
Prospect Heights	$15,992
Rolling Meadows	$13,343
Wheeling	$13,398

These figures indicate a healthy economic situation within the service area.

Few environmentally sensitive areas are within the service area. A small portion of the Cook County Forest Preserve District's Ned Brown Preserve of 3,600 acres occupies the western portion of the area. The Forest Preserve District's holdings along the Des Plaines River are located in the eastern portion of the area.

B. Detailed Description

1. Climate

The continental climate of the service area has relatively warm summers and cold winters, with frequent short fluctuations in temperature, humidity, cloudiness, and wind direction. Temperatures of 96^{o} or greater occur in about half of the summers while about half of the winters may have low extremes of -15^{o}. The mean annual temperature is 49^{o}. Precipitation averages 33 inches per year, with about 10% of this occurring as snow. Summer rainfall is unevenly distributed in intense local showers while precipitation in the fall, winter, and spring tends to be more uniform over large areas. Winds are most commonly from the southwest and the northwest, on an annual basis. An annual windrose is presented in Figure 2-1. Monthly windrose charts are presented in Appendix D, pages D-10 to D-21.

Tornadoes occur in Northern Illinois and are most prevalent in March, April, May, and June. Other periodic hazards include severe thunderstorms, hail, and ice storms. Fog is infrequent in the Chicago area.

Climatological data are available from O'Hare International Airport, at the south of the study area.

2. Topography

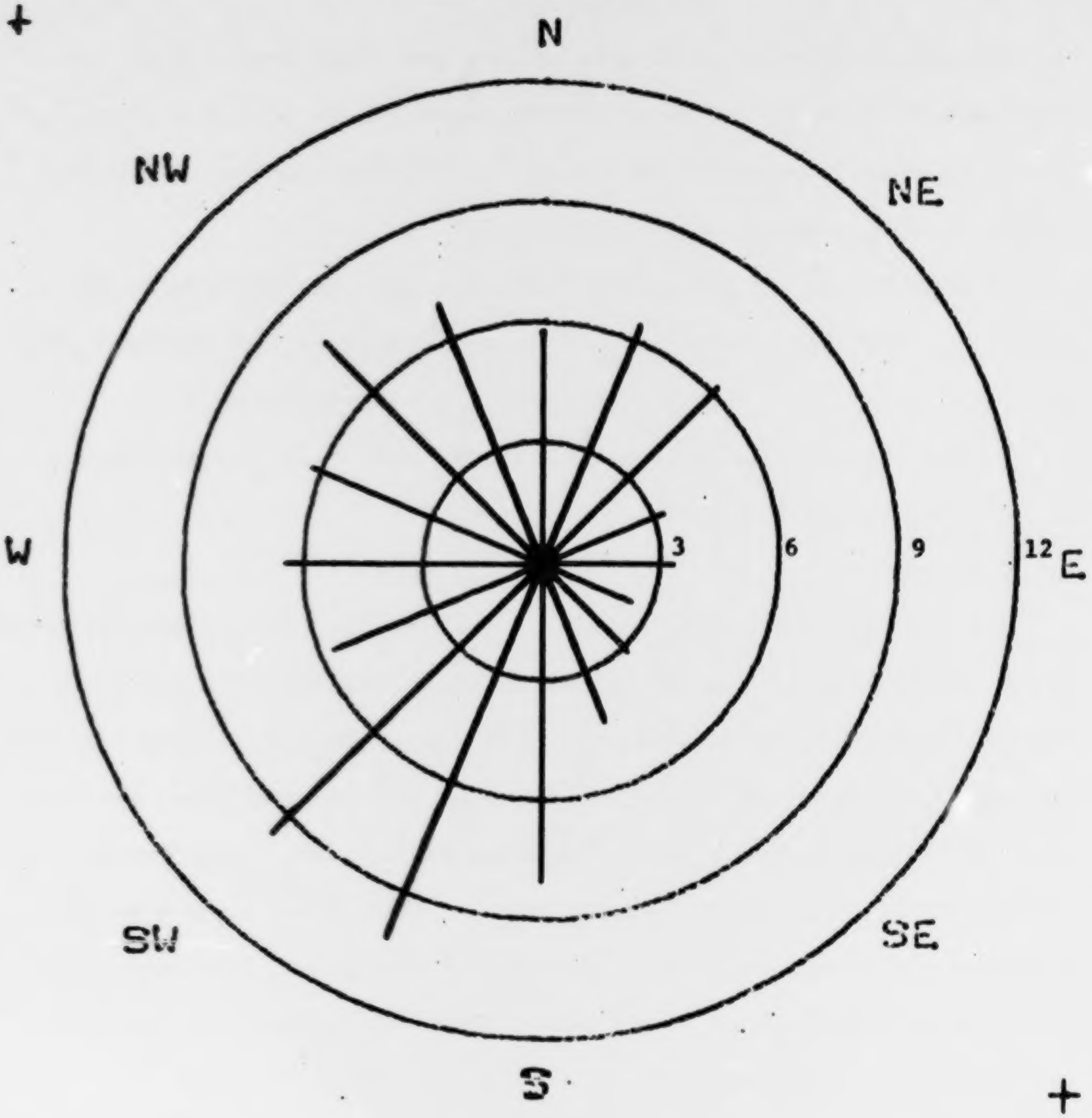
The proposed plant site lies within the drainage basin of the Des Plaines River. Tributaries to the Des Plaines include: Higgins Creek and the Feehanville Ditch. The service area is 58.2 square miles, sloping from about 700 feet above sea level at the western boundry to about 625 feet above sea level at the Des Plaines River, 6 1/2 miles to the east. Landforms are gently rolling, with slight vertical relief. Most of the study area has undergone the transition from a region of small towns and farm land to an extensive suburban area of single family homes, apartments, and commercial and industrial development.

3. Geology

The potential WRP sitesare underlain by three geologic systems. The stratigraphic sequence is the Quarternary System, the Silurian System and the Ordovician System. (See Figures 2-2 and 2-3.)

The Quaternary System is composed soley of material from the Pleistocene series. The formations contained within the series are the Wadsworth and Wedron. The main constituents of both are clayey silts with sand lenses

HOURLY WIND ROSE

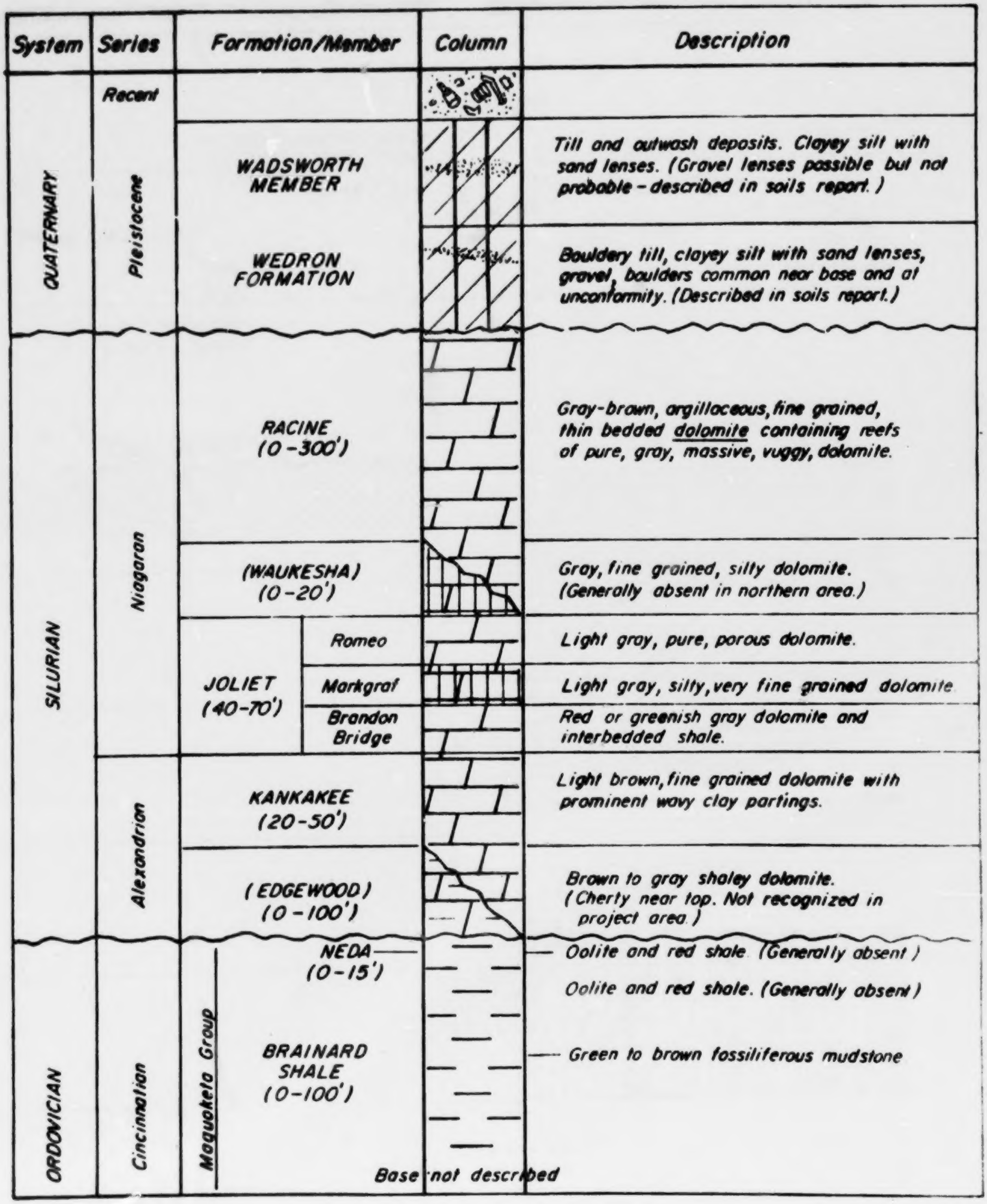


CHICAGO, ILLINOIS
O'HARE
ANNUAL
1956-1960

3.6% Calm

FIGURE 2-1

Concentric Circles Represent Composite
Percent Frequencies



System	Series	Formation/Member		Column	Description
QUATERNARY	Recent				
	Pleistocene	WADSWORTH MEMBER			Till and outwash deposits. Clayey silt with sand lenses. (Gravel lenses possible but not probable - described in soils report.)
		WEDRON FORMATION			Bouldery till, clayey silt with sand lenses, gravel, boulders common near base and at unconformity. (Described in soils report.)
SILURIAN	Niagaran	RACINE (0 - 300')			Gray-brown, argillaceous, fine grained, thin bedded dolomite containing reefs of pure, gray, massive, vuggy, dolomite.
		(WAUKESHA) (0 - 20')			Gray, fine grained, silty dolomite. (Generally absent in northern area.)
		JOLIET (40-70')	Romeo		Light gray, pure, porous dolomite.
			Markgraf		Light gray, silty, very fine grained dolomite
			Brandon Bridge		Red or greenish gray dolomite and interbedded shale.
	Alexandrian	KANKAKEE (20-50')			Light brown, fine grained dolomite with prominent wavy clay partings.
		(EDGEWOOD) (0 - 100')			Brown to gray shaley dolomite. (Cherty near top. Not recognized in project area.)
ORDOVICIAN	Cincinnatian	Maquoketa Group	NEDA (0 - 15')		Oolite and red shale. (Generally absent)
			BRAINARD SHALE (0 - 100')		Oolite and red shale. (Generally absent) Green to brown fossiliferous mudstone

Base not described

FIGURE 2- 2

STRATIGRAPHIC SEQUENCE

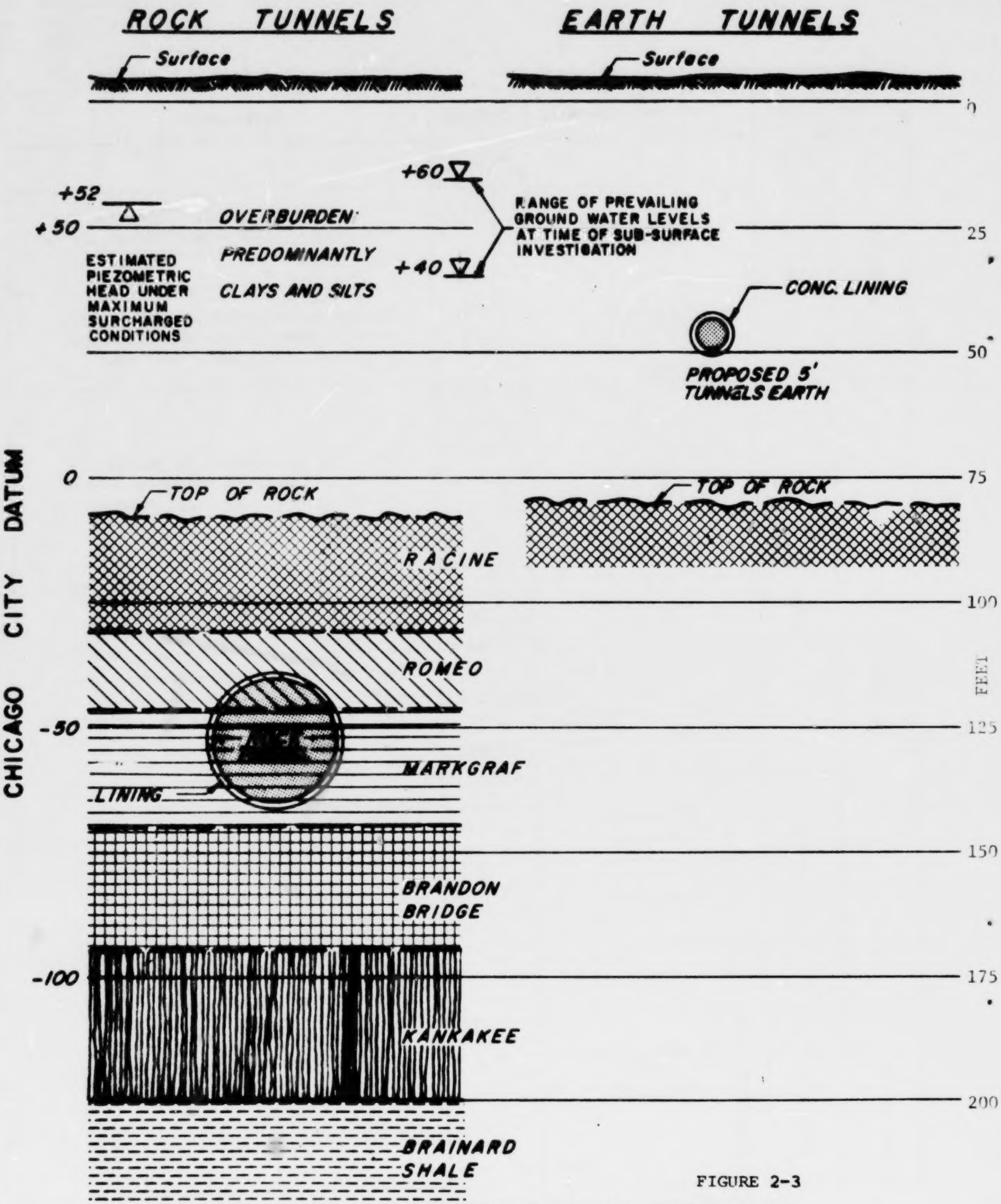

ROCK TUNNELS
EARTH TUNNELS
Surface
Surface
0
+52
+50
OVERBURDEN
PREDOMINANTLY
CLAYS AND SILTS
ESTIMATED
PIEZOMETRIC
HEAD UNDER
MAXIMUM
SURCHARGED
CONDITIONS
+60
+40
RANGE OF PREVAILING
GROUND WATER LEVELS
AT TIME OF SUB-SURFACE
INVESTIGATION
25
CONC. LINING
50
PROPOSED 5'
TUNNELS EARTH
CHICAGO CITY DATUM
0
75
TOP OF ROCK
TOP OF ROCK
RACINE
100
ROMEO
FEET
-50
125
MARKGRAF
LINING
150
BRANDON
BRIDGE
-100
175
KANKAKEE
200
BRAINARD
SHALE

FIGURE 2-3

GENERALIZED STRATIGRAPHIC SECTIONS

originating from glacial deposits.

The Silurian System lies under the Quaternary System and contains material originating from the Niagaran and Alexandrian series. The Niagaran series contains the Racine, Waukesha and Joliet formations. The Racine and Waukesha formations are composed of argillaceous fine grained dolomite while the Joliet formation is a lighter gray dolomite. The Kankakee and Edgewood formations comprise the Alexandrian Series. Dolomite is also the major portion of these formations ranging from fine to shaly in texture.

The final system is the Ordovician, composed of the Cincinnation series which has two formations; the NEDA and Brainard Shale Red shale and fossiliferous mudstone comprise the majority of these formations.

The above discussion encompases approximately the first eight hundred feet of earth. There are two main aquifers contained in the above mentioned geologic structures. They lie in the Silurian and Ordivician Systems.

The Silurian aquifer has an average depth of 108 to 205 feet. It is composed mainly of glacial till material. The uppermost material, in the area of access tunnels and work shafts is slightly more porous than that surrounding the rock tunnel. The coefficient of permeability (C_p) of the glacial till is 10^{-6} to 10^{-8} cm/sec. Because of the low C_p there will be no significant release of water to the tunnel through seepage. Any seepage that will occur results from openings primarily in the form of cracks and joints in the rock. The location of inflows in this case can easily be located after excavation, particularly within the machine bored section of the tunnel and may be appropriately grouted. Another source of inflow may occur during the boring of work shafts or access tunnels. The inflow will originate from ground water seepage, to the upper portions of the shaft and tunnels. This seepage may also be arrested by the use of grouting techniques. Within the formation there exists sand and gravel pockets which hold limited amounts of water. If they are encountered by construction, the water may be released to the tunnel. These quantities of water appear to be extremely limited and are not known to be used as potable water supply sources.

As an overall view it is anticipated that the drawdown of the water supply aquifier during operation of the facility will be virtually zero. It is expected that grouting will reduce the groundwater flow into the tunnels to less than 300 gpm over the total length of tunnels based on the results obtained from previous projects. Tunnel lining which is planned, will further reduce inflows.

Since the tunneling lies within the glacial till-Silurian system and concurrently within the Silurian aquifier area, a discussion of the Ordivician aquifer will be left to the water supply section of this statement. Ground water and surface water recharge of the aquifiers will also be addressed in that section. A more complete discussion of the bedrock geology can be found in Appendix E.

4. Soils

The soils of the study area have developed from glacial parent materials, under prairie and transitional (prairie to woodland) vegetation. Alluvial soils have developed along stream flood plains. Most soils generally have fairly low permeabilites and high seasonal water tables, resulting in poor drainage. Despite the slow drainage and flat topography erosion control is desirable to avoid soil loss and the sedimentation of streams.

The proposed plant site is overlain by fill material of variable depth consisting predominantly of silty clay to clayey silt with variable amounts of sand, gravel, organic matter, paper, wood, brick fragments, glass. The depth of the fill varies from only several feet to as much as 25 feet. In general, the average depth of fill is 10 to 15 feet. The enginnering characteristics of the fill such as consistency, relative density, unconfined compressive strength, dry unit weight, moisture content and textural composition are extremely variable.

The two areas not overlain by fill, the northwest portion of the site and the area south and west of Higgins Creek, are typically overlain by a thin mantle of dark brown to black organic clayey silt.

Underlying the topsoil and fill material over the major portion of the site are cohesive soils consisting of clayey silts and silty clays. These cohesive soils contain variable percentages of sand and gravel with occasional sand and/or silt seams or lenses. Pockets and lenses of sand and silt are also incorporated in the soil mass. The engineering characteristics of the cohesive soils vary within a normal range of typical cohesive glacial deposits.

Within the cohesive soils are numerous small and several larger pockets or lenses of silt with variable percentages of clay, sand and gravel. These deposits vary in thickness up to approximately 15 feet. The engineering characteristics vary within a normal range.

Numerous small and several large pockets or lenses of granular soils consisting predominantly of sand with variable percentages of clay, silt and gravel are incorporated within the mass of the cohesive soils. These granular deposits are more numerous in the eastern half of the site and vary in thickness up to approximately 20 feet and are medium dense as indicated by the standard penetration tests.

At the western portion of the site, limestone bedrock has been encountered at about 85 feet below the ground surface.

5. Hydrology

a. Surface Water

The study area is located in the drainage basin of the Des Plaines River. Several small streams originate in the study area and flow eastward to join the Des Plaines River. The streams and their drainage basins have been and are being modified as the area develops. Named tributaries of the project area include: Buffalo Creek and Wheeling Drainage Ditch; McDonald Creek; Weller's Creek and Weller's Drainage Ditch; Higgins and Willow Creek; and Feehanville Ditch. All of these watercourses have a 7-day once in 10-year low flow of zero. The natural drainage boundaries for Weller's Creek and Feehanville Ditch are indicated in Figure 2-4.

Weller's Creek, which has a total length of approximately 6.5 miles, is joined by a number of smaller tributaries and drains an area of approximately 10,780 acres. Portions of this stream have been relocated, some areas have been channelized and other areas are in underground conduits. Modifications of dendritic extremities has been most extensive as many have been eliminated by developments and other portions are underground. The vast majority of this drainage basin has been urbanized.

Feehanville Ditch extends for approximately 2.5 miles and drains an area of approximately 1,990 acres. This watercourse and its drainage basin have been substantially modified by urbanization. The headwaters of Feehanville Ditch are underground as is a portion north of Maryville Academy, and a large portion of the stream has been channelized.

Higgins Creek is about five miles in length and drains approximately 5,000 acres before joining Willow Creek at a point approximately three to three-an a half miles upstream from the Des Plaines River. The majority of the Higgins Creek area is highly urbanized with some industrial and

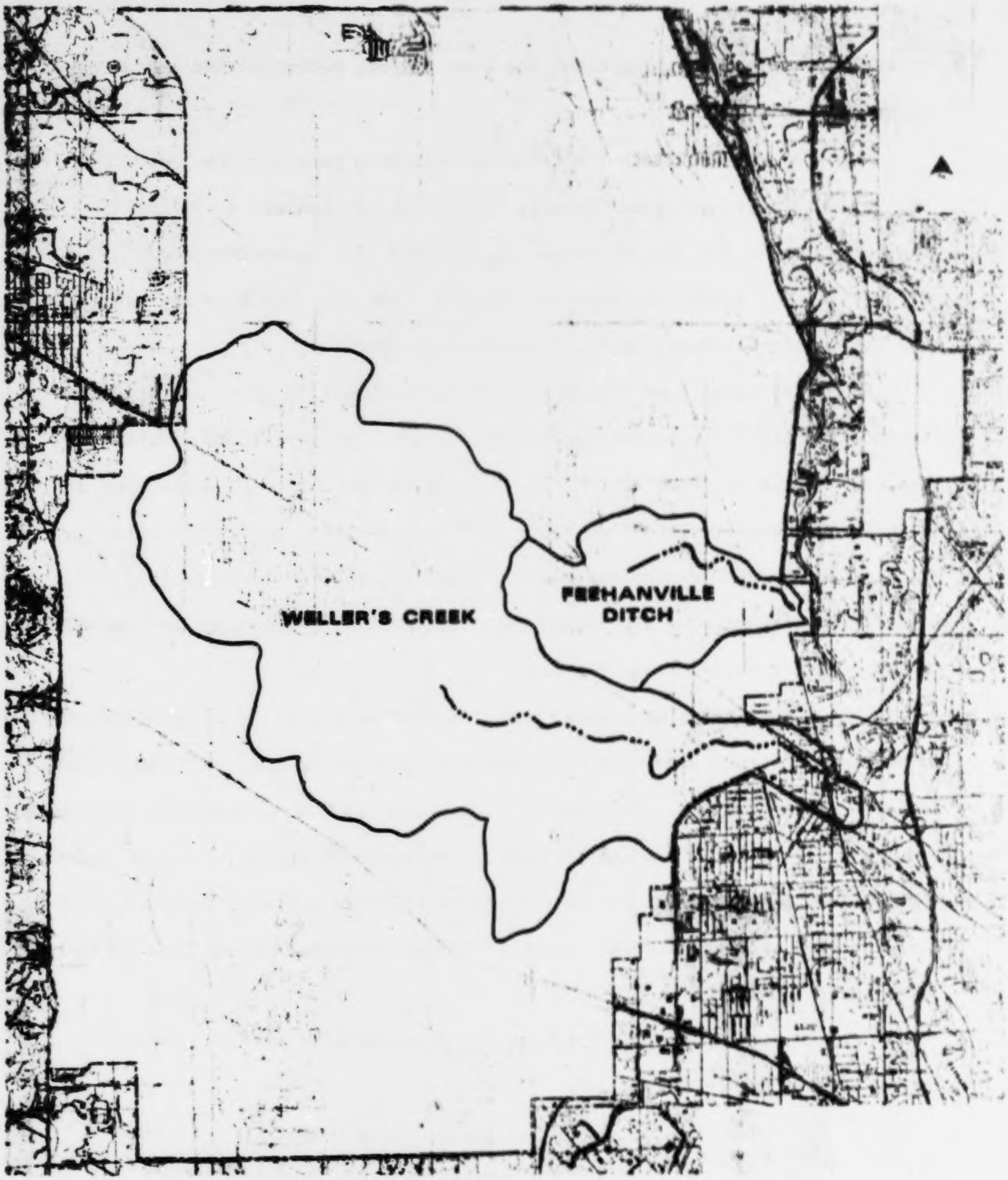

WELLER'S CREEK
FEEHANVILLE
DITCH

FIGURE 2-4

NATURAL DRAINAGE BOUNDARIES
WELLER'S CREEK AND FEEHANVILLE DITCH

agricultural uses. Higgins Creek has been filled, relocated and channelized in several places.

The flow rates of Weller's Creek at Golf Road have been monitored by the United States Geological Survey. The rates of flow are as follows: two-year flood - 520 cfs; five-year flood - 900 cfs; ten-year flood - 1,200 cfs; 25-year flood - 1,600 cfs; 100-year flood - 2,400 cfs. No data are available for the smaller drainage basin of Feehanville Ditch.

The water quality of Weller's Creek and Feehanville Ditch has drastically deteriorated with the increasing urbanization of the respective drainage basins. In the 21 years of record, as compiled and computed by the City of Chicago, Department of Public Works, 1949 through 1969, approximately 7 million pounds of suspended solids and 1 million pounds of biochemical oxygen demand have been deposited yearly into Weller's Creek and the Feehanville Ditch during combined sewer overflow.

The United States Geological Survey estimated the 10, 50, and 100-year flow rate of Higgins Creek at Mount Prospect Road to be 840, 1,250, and 1,650 cfs respectively. The water quality in Higgins Creek is summarized in Appendix T. Parameters indicating sewage loadings were not tabulated by the IEPA for 1973. Existing urban activities contribute polluted stormwater runoff to the natural flow of Higgins Creek probably adding significant quantities of inorganic and organic pollutants.

Grab samples of Higgins Creek at the proposed site after a prolonged rainfall gave the following data:

pH - 7.5
COD - 44
BOD - 8
Suspended Solids - 41
Total Solids - 506
Total Coliform - 1,300,000
Fecal Coliform - 250,000
Fecal Strep - 9,000

The State Environmental Protection Agency sampled Weller's Creek during 1971.

The water quality of Weller's Creek is below State standards for the following parameters: dissolved oxygen, total dissolved solids, total phosphate, ammonia, phenols and fecal coliforms. The water quality of Feehanville Ditch probably approaches the same magnitude of degradation as presently exists in Weller's Creek. Water Quality data from Weller's Creek is in Appendix T.

b. Groundwater Aquifers in the Service Area

The silurian bedrocks of the study area are overlain by 45 to 100 feet of glacial material. The textural composition of material, which is often interbedded, ranges from clay to clayed silt, and usually contains varying amounts of sand, gravel and boulders. Waterbearing sand layers are common to this glacial deposit. Analysis of drilling data indicates the water tables of this area vary from 20 to 25 feet in the summer to around 40 feet in the winter.

The shallow aquifers of this glacial drift are hydraulically connected with the underlying Silurian rocks. Groundwater in the Silurian and Ordovician rocks occurs in joints, fissures, solution cavities and other openings. The water-yielding openings are irregularly distributed both vertically and horizontally. Available geohydrologic data indicate that the rocks contain numerous openings which extend for considerable distances and are interconnected on an areal basis.

Large quantities of groundwater are withdrawn from wells in shallow dolomite aquifers of Silurian and Ordovician age in northern Illinois. The Niagaran and Alexandrian Series of Silurian age yield moderate to large quantities of groundwater.

Most water-yielding openings occur in the upper one-third of the shallow dolomite aquifers. A good relationship exists between glacial drift and the upper part of the shallow dolomite aquifers. Highest yielding wells are found in areas where the glacial drift immediately overlying the shallow dolomite aquifers is composed of sand and gravel.

Probable ranges in yields of shallow dolomite wells can be estimated from specific-capacity frequency graphs, aquifer thickness and areal geology maps, and water-level data. On the basis of these data, potential wells of the project area could yield up to 40 to 60 gpm (gallons per minutes).

Recharge of the upper glacial drift-Silurian aquifer appears to occur from local precipitation, but the low permeability of the overburden soils may be reason to suspect some horizontal movement from the west.

The lower Cambrian Ordovician aquifer reportedly receives water from horizontal movement in recharge areas in North-Central Illinois and Southern Wisconsin; and vertical leakage through the overlying Maquoketa formation. In 1958 this leakage was estimated to be approximately 11 percent of the total water pumped from deep sandstone wells in the Chicago region. The vertical leakage through the Maquoketa shale is generally due to the large differential head between the aquifers (and locally may be facilitated by faults in the rock).

According to Walton (Future Water Level Declines in Deep Sandstone Wells in Chicago Region, Ill. State Water Survey-Reprint Series No. 36, 1974) the practical sustained yield of the deep aquifers in the Chicago region is 60 MGD which is less than the actual pumpage. It is anticipated that Lake Michigan water may be made available to municipalities in the future to limit the pumpage rates to the practical sustained yield in the project area.

Regionally, the shallow groundwater aquifer system reportedly has a supply in excess of pumpage and any lowering of the groundwater elevations is not anticipated except for seasonal fluctuations and local variations due to pumpage.

The pumpage rate and the pumpage subdivided by use over the whole basin from this aquifer has not been established, but available well records indicate that the majority of wells in the shallow aquifer are private domestic service with pumpout rates between 5 to 50 GPM. Municipal and industrial pumpage appears to be from the deep aquifer which estimated on population, may have amounted to approximately 20 to 25 MGD for 1970, in the project area. (Average per capita consumption 115 gpd) of which approximately 3 MGD (11%) infiltrated from the shallow Silurian aquifer.

Regional groundwater quality and quantity data for Cook, Dupage, Lake McHenry, Kane and Will counties are presented in Appendix F. This material is available in Technical Report #8 - Regional Water Supply Report, September 1974, by the Northeastern Illinois Planning Commission.

c. Water Usage

With the exception of that part of the O'Hare Service Area lying within the City of Des Plaines, all potable and industrial water supplies are obtained from groundwater sources. Des Plaines presently obtains about 70 percent of its water from Lake Michigan through the City of Chicago system, with the remainder coming from groundwater sources.

Average daily pumpage by municipal systems in the O'Hare Drainage Basin in 1966 and 1971, expressed in millions of gallons per day, was as follows:

	1966	1971
Elk Grove Twp.	4.39	6.92
Wheeling Twp.	7.21	11.25
Maine Twp.	6.25	3.59

The increase in Arlington Heights in the five year period was about 2.0 MGD.

d. Water Quality & Quantity Problems

The sewage from the O'Hare Service Area is presently conveyed to the North Side Sewage Treatment Works. The capacity of the conveying interceptor is 40 MGD. This is adequate to handle the present dry weather flow from the O'Hare Service Area. However by 1980 a dry weather flow of 40 MGD is projected, and it should be noted that the 40 MGD rating for the interceptor is maximum capacity when flowing full without surcharge. The projected dry weather flow for 1980 would create surcharge conditions because diurnal peaks result in a 50% increase above dry weather flows.

In addition combined sewers presently overflow to Weller's Creek and Feehanville Ditch, both of which are tributaries of the Des Plaines River, during low intensity storms. The problem is compounded in the Weller's Creek Basin by domestic and industrial wastes discharged to the creek as combined overflows. Basement flooding is common as are the unpleasant and unsanitary deposits of waste along banks of the creek. Flooded street intersections are also an inconvenience and hazard to health following moderately heavy rainfalls.

Four commercial or industrial waste treatment plant effluents are discharged into Higgins Creek upstream of the proposed site. None is in violation of the Industrial Waste Ordinance of the MSDGC but surveillance is necessary. Additionally, water conservation measures are described in the Regional Water Supply Report and are included in Appendix G.

e. Water Quality Management

Section 208 of the 1972 Federal Water Pollution Control Amendments Act of 1972 provides for areawide planning for waste treatment management in large urban - industrial areas of the nation which have severe and complex water quality problems. The northeastern Illinois counties of which the service area is a part have been identified as having such water quality problems. The Northeastern Illinois Planning Commission is currently organizing a 208 planning effort with local governmental units. With the support of local governments, the Governor of Illinois may designate an areawide waste treatment management planning area (208 area) and may designate the Northeastern Illinois Planning Commission (NIPC) as the official "responsible planning agency" for 208 planning.

At this writing, the following service area governmental units have supported through resolution, the designation of the six-county area and NIPC as the 208 planning agency:

Arlington Heights
Mount Prospect
Des Plaines
Cook County
Buffalo Grove

MSDGC has prepared a proposal as to their participation within the 208 planning process.

The Northeastern Illinois Planning Commission has also completed a Regional Wastewater Plan (1971), which will be a major component of the 208 study.

The Illinois Environmental Protection Agency has the responsibility for Section 303 of the 1972 Amendments whereby water quality problems are identified and overall pollution abatement strategies are established for all major river basins in the state.

f. Flood Hazards

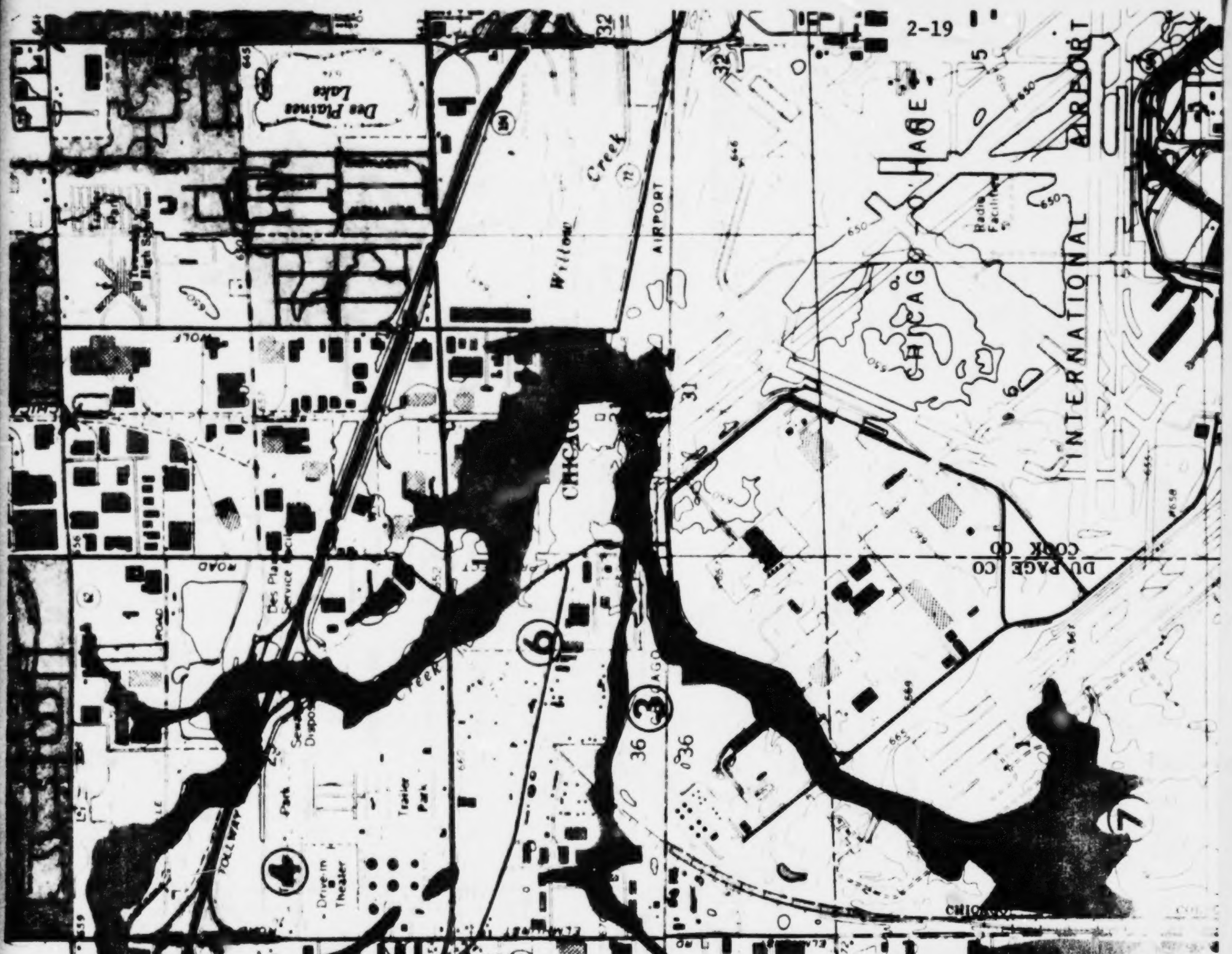
The United States Geological Survey (USGS) flood hazard maps indicate the flood crest of 1957 as the maximum historical occurance. The flood crest at the plant site proposed by MSDGC was approximately 656 feet above sea level and overbank flooding occurred on portions of the site. The flood-prone areas in the O'Hare service area have been mapped for the 100 year recurring flood event. These maps are available in 7.5 minute series (topographic) from the Northeastern Illinois Planning Commission. Figure 2-5 indicates the 100 year flood potential for the nine sites which have been suggested for placement of the O'Hare WRP. Channelization of Higgins Creek is part of the Willow-Higgins Creek Watershed plan illustrated in Figure 2-6. This plan consists of locating storm reservoirs along Willow Higgins Creek and channelizing various sections to protect against the 100 year flood. A summary of the O'Hare area flood control activities is found in Appendix A. Any grant award made to the MSDGC for a WRP will require that flood insurance under the National Flood Insurance Act of 1968 is acquired and maintained.

6. Biology

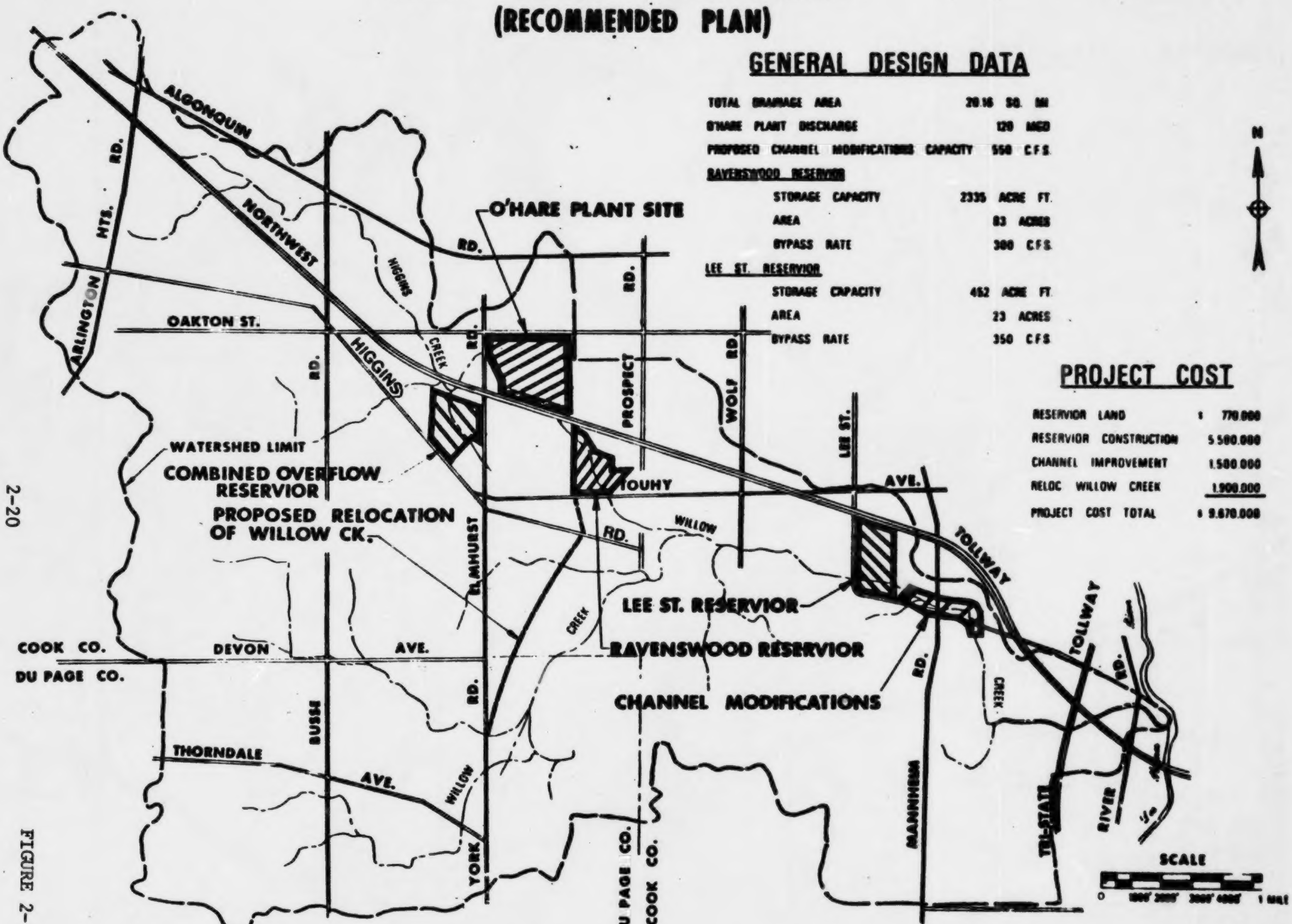
Most of the study area has become urbanized, with the original prairie vegetation and oak-hickory deciduous forests being replaced by agricultural lands, yards, parks, and urban areas.

Principal remaining natural areas occur along the Des Plaines River and its tributary streams, and in the Ned Brown Forest Preserve. A variety of birds and small mammals inhabit the service area. Agricultural and urban runoff have polluted streams and affected the original composition of stream plants and animals.

No endangered or rare species on the U.S. Department of Interior list are known to be present in this area. There are however several rare and endangered bird species from the State of Illinois list which could be present in the project area. The rare species are:


CHICAGO O'HARE INTERNATIONAL AIRPORT
Radio Facility
AIRPORT
Willow Creek
Des Plaines Lake
COOK CO
DU PAGE CO
Drive-in Theater
Trailer Park
Park
TOLLWAY
Creek
Des Plaines Service
Sewage Disposal
WOLF
ROAD
NORTHWEST
STREET
GROVE VIL CORP BDY
ELK
CHICAGO
1
2
3
4
5
6
7
8
9
31
32
36
650
665
675

WILLOW - HIGGINS CREEK WATERSHED
(RECOMMENDED PLAN)


ALGONQUIN RD.
ARLINGTON HTS. RD.
NORTHWEST
HIGGINS
HIGGINS
CREEK
OAKTON ST.
O'HARE PLANT SITE
PROSPECT RD.
WOLF RD.
LEE ST.
AVE.
TOUHY
RD.
WILLOW
CREEK
TOLLWAY
TOLLWAY
TRI-STATE
RIVER RD.
MANNHEIM RD.
CREEK
ELMHURST RD.
YORK RD.
BUSSE RD.
DEVON AVE.
THORNDALE AVE.
WILLOW
COOK CO.
DU PAGE CO.
DU PAGE CO.
COOK CO.
WATERSHED LIMIT
COMBINED OVERFLOW RESERVIOR
PROPOSED RELOCATION OF WILLOW CK.
LEE ST. RESERVIOR
RAVENSWOOD RESERVIOR
CHANNEL MODIFICATIONS
N
SCALE
0
1000'
2000'
3000'
4000'
1 MILE
71 F 513 R(P) 1

GENERAL DESIGN DATA

TOTAL DRAINAGE AREA	20.16 SQ. MI
O'HARE PLANT DISCHARGE	120 MGD
PROPOSED CHANNEL MODIFICATIONS CAPACITY	550 C.F.S.
RAVENSWOOD RESERVIOR	
STORAGE CAPACITY	2335 ACRE FT.
AREA	83 ACRES
BYPASS RATE	300 C.F.S.
LEE ST. RESERVIOR	
STORAGE CAPACITY	452 ACRE FT.
AREA	23 ACRES
BYPASS RATE	350 C.F.S.

PROJECT COST

RESERVIOR LAND	$ 770.000
RESERVIOR CONSTRUCTION	5.500.000
CHANNEL IMPROVEMENT	1.500.000
RELOC WILLOW CREEK	1.900.000
PROJECT COST TOTAL	$ 9.670.000

FIGURE 2-6

1. Nycticorax nycticormx - Black-crowned night heron
2. Botaurus lentiginosus - American bittern
3. Circus cyreus - Marsh hawk
4. Tyto alba - Barn owl
5. Asio otus - Long-eared owl
6. Asio flammeus - Short-eared owl
7. Hylocichla fuscescens - Veery
8. Euphagus cyanocephalus - Brewer's blackbird

The endangered species are:

1. Accipiter cooperii - Cooper's hawk
2. Buteo lineatus - Red-shouldered hawk
3. Bartramia longicauda - Upland sandpiper

Numerous rabbits have been observed at the proposed treatment plant site. Vegetation at the site has been disturbed by man's past activities. It consists largely of grasses and other herbaceous plants and some small trees. No known aquatic studies have been done on Higgins Creek..

7. Air Quality

In order to evaluate the existing air quality in the vicinity of the proposed projects, air quality data was gathered from several sources. These included the Illinois Environmental Protection Agency, the Cook County Department of Environmental Control, the City of Chicago Department of Environmental Control, and an "Airport Vicinity Air Pollution Study" conducted by the Energy and Environmental Systems Division of Argonne National Laboratory.

a. Particulate Matter

The greatest amount of data available is the result of particulate matter sampling. Data from the Argonne study indicate that for sampling stations west of O'Hare levels vary from 46 $\mu g/m^3$ in upwind conditions to 66 $\mu g/m^3$ for downwind conditions. On the other hand, levels at stations east of O'Hare vary from 112 $\mu g/m^3$ in upwind conditions, to 66 $\mu g/m^3$ in downwind conditions. The increase in particulate values when winds are from the west suggests that the airport does make a measureable contribution to the particulate loading downwind of the airport.

The primary national ambient air quality standard is an annual average no greater than 75 $\mu g/m^3$ and a 24-hour maximum no greater than 260 $\mu g/m^3$. Samples taken on airport property show that 100% of the 24-hour values were 240 $\mu g/m^3$ or less while 100% of the 24-hour samples outside the airport were 180 $\mu g/m^3$ or less.

At a Cook County sampling station southeast of O'Hare (Franklin Park) the annual mean concentration of particulate matter in 1974 was 74 $\mu g/m^3$. At another station northeast of O'Hare (and downwind), the annual mean concentration for 1974 was 67 $\mu g/m^3$. While both of these stations met the primary standard for particulate matter, they were in violation of the secondary standard of 60 $\mu g/m^3$. Data from a City of Chicago sampling station east of O'Hare (Taft High School) from January, 1966 to December , 1974 shows an average annual mean concentration of 89 $\mu g/m^3$. Obviously, it is very difficult to draw any conclusions from this data because of the variability of wind direction and the effects of surrounding area emissions. It does appear however, that samples taken close to airport sources generally violate standards, but that the concentrations of particulate matter decrease with increasing distance from the airport.

b. Nitrogen Oxides

Because there is even less data available on this pollutant, it becomes even more difficult to note any significant trends. National ambient air quality standards state that, as an annual average, photochemical oxidants should not exceed 160 $\mu g/m^3$ nor should they exceed 0.08ppm as a one-hour maximum. While some samples taken during the Argonne study recorded levels as high as 540 $\mu g/m^3$ (or 0.262ppm), the variability in samples was extensive with some readings as low as 2.4 $\mu g/m^3$. For example, samples taken along the northern perimeter of the airport range from 220 $\mu g/m^3$ to 540 $\mu g/m^3$. Along the eastern perimeter of the airport values ranged from 52 $\mu g/m^3$ to 187 $\mu g/m^3$. Comparisons of samples on airport property and those outside O'Hare show levels of 209 $\mu g/m^3$ for the former and 109 $\mu g/m^3$ for the latter.

Results of samples taken by Cook County show an annual 1974 mean of 65 $\mu g/m^3$ with a range from 32 $\mu g/m^3$ to 110 $\mu g/m^3$. Similar samples taken by the City of Chicago east of O'Hare (Taft High School) indicate a 1974 annual average of 0.036ppm. The Argonne study concluded that concentrations of NO and NO_x were substantially higher is active mobile source areas of the airport than in the surrounding neighborhood. The highest NO_x readings were obtained at both the gate areas and near the ends of runways 14R and 14L. As with particulate matter, it can be seen that monitoring over a long period of time results in annual averages which are well within the standards. However, it is very common that in certain areas, spot samples will result in readings which greatly exceed the hourly standard.

c. Total Hydrocarbons

In the case of this pollutant it was found that the background levels of total hydrocarbons (THC) were so high that it was not possible, in the case of the Argonne study, to determine the impact of aircraft emissions on the air quality in the area. The maximum standard for a 3-hour period, which is not to be exceeded more than once a year, is 160 $\mu g/m^3$ (or 0.24ppm). Sampling of the northern perimeter revealed THC levels from 1934 $\mu g/m^3$ to 2330 $\mu g/m^3$ with a range from 1700 $\mu g/m^3$ to 1950 $\mu g/m^3$ along the eastern perimeter. THC levels outside O'Hare in Elk Grove Village (west of Site #1) ranged from 1535 $\mu g/m^3$ to 2100 $\mu g/m^3$. The Argonne study noted that the high background THC could be largely methane which is relatively stable in the atmosphere while the contributions coming from aircraft may contain a substantial fraction of reactive hydrocarbons so that these contributions could be significant with regard to the production of photochemical smog.

The Argonne study indicated that it was highly questionable whether aircraft emissions would have a detectable effect at ground levle because of the interference with ground based emissions. Visual observations of the exhaust plumes saw them transported to ground level at distances of about one to two miles from the runway end. The visibility of the exhaust plumes near the surface within one or two miles of the airport as well as their detectability at flight levels suggest that at least one type of impact of particulate emissions is to increase the atmospheric pall in the airport vicinity.

In general, it appears that air quality in the vicinity of the project sites is severely degraded because of the proximity to O'Hare airport. While comprehensive sampling indicates that the standards for some pollutants are not violated, spot sampling would certainly indicate a noticeable degradation of the air quality in the area.

8. Land Use

According to MSDGC estimates, the ultimate growth of the facility area will include:

Residential & Commercial land uses	29,382 Acres
Industrial	7,378 Acres
Open Space (includes forest preserve, cemeteries & municipal parks)	5,000 Acres

The growth trends have shown vacant land developed to residential, commercial and industrial uses. Residential growth trends indicate multi-family residential units becoming more prevalent than the past predominantly single-family home suburban-type development.

Air and water quality may be threatened by the trend in land use changes which include more people, cars, and construction of homes, offices, industrial plants and shopping centers. The availability of vacant land is not the only criteria for future development. Several open space agencies exist within the service area (for example local Park Districts) which are authorized to acquire lands for park and recreation purposes. These agencies contribute to the overall environmental improvement by preserving lands for recreational and environmental educational uses. The trend toward open space preservation should be included in land use alternatives considered in the various plans prepared by local agencies.

Comprehensive planning is the process by which a public planning agency provides for orderly development of an area and promotes a desirable environment.

By this process, physical development is coordinated in accordance with present and future needs.

Plans and programs usually include a land use plan, a thoroughfare plan, a common facilities plan and public improvements program. Administrative and regulative measures to control and guide physical development according to the plans include a zoning ordinance, an official map and subdivision regulations.

A land use plan shows the location and extent of lands designated for various kinds of residential, institutional, commercial, industrial and public purposes. Current land use planning within the service area is being carried on by a variety of governmental units.

The "Summary of Local Planning Documents in Illinois," prepared by the State of Illinois Department of Transportation (1973) lists the following plans:

Arlington Heights	Comprehensive Village Plan (revised 1967) Preliminary Planning Report 1968
Des Plaines	Comprehensive Plan 1971, Zoning Ordinance 1971
Elk Grove Village	Comprehensive Plan, 1967
Mount Prospect	Comprehensive Plan 1968
Rolling Meadows	Subdivision Control Ordinance (amended 1964)
Wheeling	General Development Plan, 1965

The Cook County Zoning Board of Appeals is currently preparing a new zoning map and zoning ordinance. Additionally, the county has a traffic safety study in progress.

9. Sensitive Areas

No properties included in or eligible for inclusion in the National Register of Historic Places are in the area of the treatment plant and sludge line. No rare or endangered species, at the State or National level, are known to occur in this area. The major open space area is in the Ned Brown Forest Preserve. It is important both as a biological and recreational resource.

10. Population Projections and Economic Forecasts

The projected population forecast of the Northeastern Illinois Planning Commission (NIPC) is shown in graphical form in Figure 2-7, and in Table 2-2. The present population in the O'Hare Service Area is approximately 250,000. The projected population for the design year of 2000 is 300,000.

Table 2-2. Population forcasts for the O'Hare Service Area. (Source: Northeastern Illinois Planning Commission)

YEAR	Forecast Population
1970	223,000
1980	261,000
1990	277,000
2000	300,000

Economic forecasts available are limited to projections of employment by townships prepared by NIPC. The three townships principally in the O'Hare Service Area are Elk Grove, Maine and Wheeling. The employment forecasts for these townships are shown in Table 2-3.

Table 2-3. Employment forecasts for the O'Hare Service Area (Source: Northeastern Illinois Planning Commission)

Township	1970	1980	1990	2000
Elk Grove	37,257	43,400	46,300	47,100
Maine	52,767	68,600	74,300	75,800
Wheeling	24,916	31,200	34,300	34,700
TOTAL	114,940	143,200	154,900	157,600

11. Other Programs in the Area

New federal legislation entitled the "Housing & Community Development Act of 1974" provides the possibility of funding for community development activities. Within the service area, two communities, Arlington Heights and Des Plaines have populations greater than 50,000 and thus are eligible for their own "entitlement" moneys. Cook County would be eligible for funds as an "Urban County" under this Act. Sewer construction is one eligible activity under the program. Future growth capacity could be stimulated by this federal program and ultimately serviced by the MSDGC.

POPULATION FORECAST
O'HARE FACILITY AREA

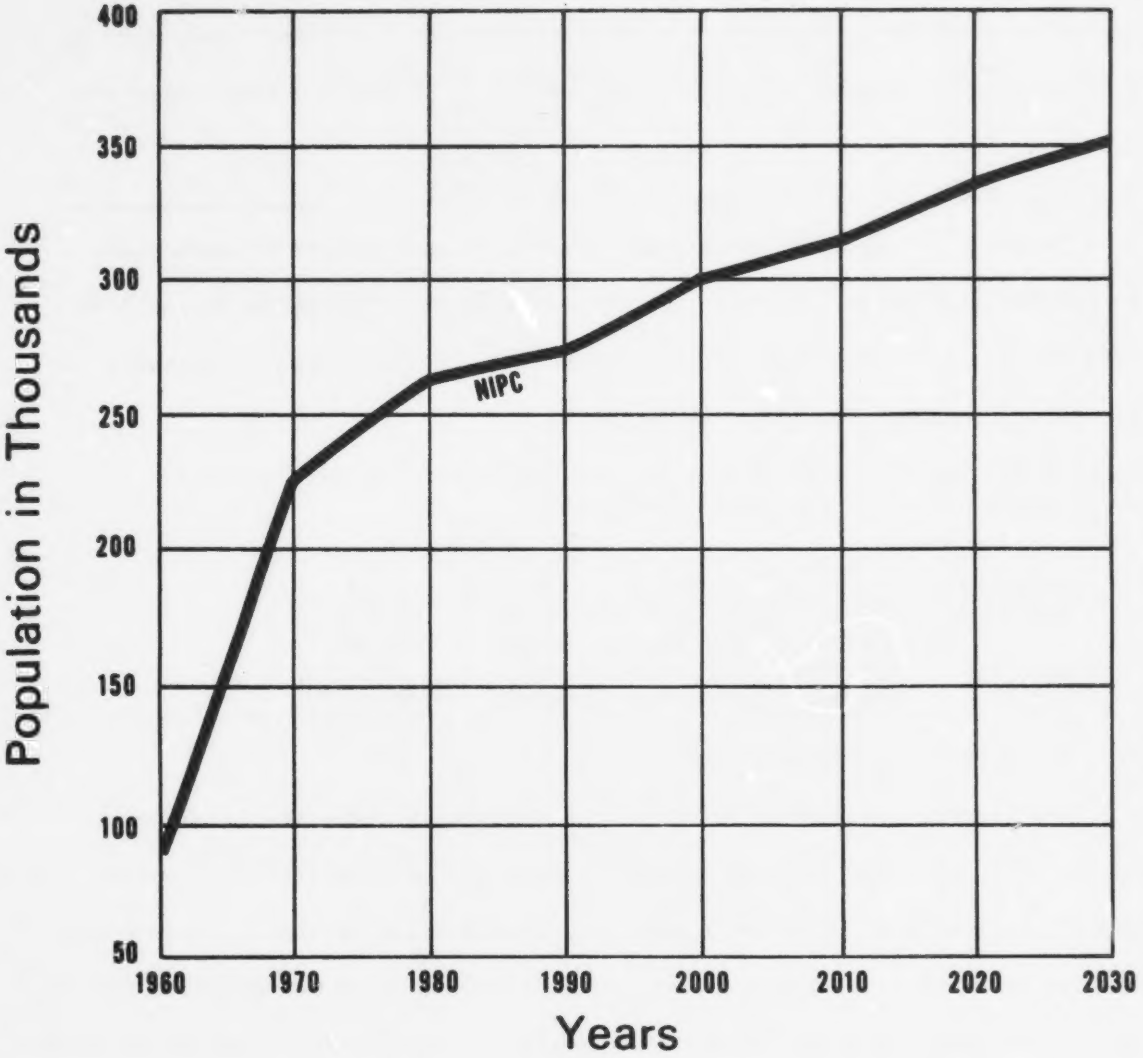


FIGURE 2-7

CHAPTER 3

ALTERNATIVES

A. Service Area Alternatives

The Northwest Service Area within the MSDGC is comprised of the following drainage areas associated with the Des Plaines, Fox and DuPage River Basins:

- Upper Des Plaines
- Salt Creek
- Poplar Creek
- Upper DuPage

Shortly after annexation of the 180 square mile Northwest Area to the MSDGC in 1956, the District and its consulting engineers began a series of studies to determine the most practicable and economic method of providing adequate sewerage treatment and conveyance facilities consistent with the needs of the rapidly expanding area. Several considerations affected decisions made by the District with respect to the Northwest Area. Briefly, they consisted of:

a. The need to keep pace with the rapidly expanding character of the Northwest Area.

b. The need to prevent the prohification of small package treatment plants by providing adequate facilities when required.

c. The need to adhere to a basin drainage concept, thus maximizing gravity flow systems and minimizing expensive pumping requirements.

d. The need to minimize basin diversion of wastewater because of value for reuse after treatment and because other basins experience flooding problems due to inadequate drainage capacity under intense wet weather conditions.

e. The need to develop a program consistent with the above concerns and the District's financial capabilities.

An initial study was completed by the MSDGC in 1961 that recommended construction of a Northwest Intercepting Sewer System to relieve existing sewers in the Northwest Area and provide service for the ultimate development of the entire area. All dry weather flows would be treated at the existing West-Southwest facility. Consultants, Greeley and Hansen, were retained to prepare a detailed report on the "Proposed West and Northwest Sewers". The report, as finalized by Greeley and Hansen in June of 1962, indicated the system would comprise 36 miles of sewer ranging in size from 60 inches up to 22 feet and costing approximately $134,000,000. The engineers concluded --

> "This large sum will require financing construction over a relatively long time so that for some rapidly growing areas in the northwest part of the Sanitary District, it will be necessary to provide temporary sewage treatment plants discharging their effluent into nearly relatively small waterways."

Subsequent to preparation of the 1962 Report, Greeley and Hansen were again retained to explore in greater detail the alternatives available and in particular those aspects associated with temporary treatment plants for the Northwest Area.

In August, 1965, their "Report on Sewerage for the Northwest Area" was submitted to the MSDGC. Five basic alternatives were examined for conveyance and treatment of sanitary flows* generated in the area and are summarized as follows:

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* dry weather flows with nominal control of wet weather flows

Plan a - All flows to the west-southwest plant.

Plan b - All flows to the Northside plant.

Plan c - All flows to a new Salt Creek plant.

Plan d - All flows to a new O'Hare plant.

Plan e - Construction of 2 new plants at O'Hare and Salt Creek.

Based on projected average annual flows of 197 MGD from the Northwest Area, at a design year of 2015, the following table summarizes the alternatives by year of construction and day required capacity as indicated in the 1965 Report:

CAPACITY AND STAGE OF CONSTRUCTION
(MGD)

Alternate Plan	Stage	Expansion of Exist. STP	New STP at Salt Creek	New STP at O'Hare
Plan a	by 1985	197		
Plan b	by 1985	197		
Plan c	initial		74.5	
	by 1980		+122.5*	
Plan d	initial			74.5
	by 1980			+122.5
Plan e	initial		29.0	45.5
	by 1980		+63.0	+59.5

* Added capacity MGD

The capital costs for initial construction and total implementation through design year 2015 are presented as follows:

CAPITAL COSTS 1965
($1000 Dollars)

	Plan a	Plan b	Plan c	Plan d	Plan e
Initial	30,430	29,870	49,320	50,330	49,400
Future	111,040	102,560	66,900	68,400	68,900
TOTAL	141,470	132,430	116,220	118,730	118,300

Since it was apparent that interim treatment plants would be required before adequate conveyance capacity could be constructed to either the existing Northside Plant or West-Southwest Plant and since the total capital costs for either of those alternatives exceeded the independent service area plans, the District adopted Plan e which called for two new facilities to serve the Salt Creek and O'Hare areas. This plan was consistent with the District's drainage basin concept, the District's financial capabilities, and could be implemented within a reasonable time frame. The Salt Creek Service Area was subsequently divided into the Poplar Creek, Upper DuPage, and Salt Creek sub-basins. With this modification, flows in the Poplar Creek basin would be treated at the existing Elgin-Main Plant, the flows in the Upper DuPage would be treated at the existing Hanover Park facility and new facilities would be constructed for the Salt Creek and O'Hare Service Areas.

The four plant concept was subsequently incorporated into the Regional Wastewater Plan for Northeastern Illinois and adopted by the State as the official water quality management plan for that portion of Illinois. On March 3, 1972, following certifications by the U.S. Department of Housing and Urban Development, the Regional Plan was approved by USEPA under the provisions of the Federal Water Pollution Control Act (FWPCA), 33 U.S.C.A. 1151 et seq. (1970). Since conceptualization of the plan for the Northwest Area in 1965, major components of the plan have been built or are under advanced stages of construction in all but the O'Hare Service Area.

Passage of the 1972 Amendments to the FWPCA mandated new planning requirements for support of construction grants authorized under Title II of the Act. Two provisions had the potential of altering the plans for the O'Hare Service Area since new analyses were required to demonstrate that the conveyance system, tributary to the proposed plant, was not subject to excessive inflow or infiltration, and for projects funded from Fiscal Year 1975 or future allotments, that the treatment works provide for the application of Best Practicable Wastewater Treatment Technology (BPWTT). Since the possibility existed that the O'Hare treatment works would be funded from the FY 75 allotment, the MSDGC pursued the aspect of BPWTT which is discussed later in this chapter. The District has also demonstrated that the facility will not be subject to excessive inflow and infiltration as defined by this Agency

Questions were raised at the March public hearings concerning the interface of the Tunnel and Reservoir Plan with the proposed O'Hare facilities and the rationale for separating the O'Hare Service Area and tunnel conveyance system from the Lower Des Plaines tunnel system. In response to those questions, we have evaluated the cost-effectiveness of the TARP proposal with respect to an independent O'Hare system.

As early as August, 1953, planning by various authors had been directed towards solution of two serious water resource problems affecting the Chicago Metropolitan Areas, water pollution from combined sewer overflows and flood damage.

In January 1972, the Flood Control Coordinating Committee (FCCC) recommended that final planning concentrate on 4 alternatives which represented the least cost-most environmentally sound concept of the approximately 50 alternatives evaluated for solving the interrelated problems. In summarizing the results of their review, the FCCC states, "The final plan for flood and pollution control in the study area should by in the form of the 'Chicago Underflow Plan' (alternatives G, H, J, and S) with Mod 3 level of storage."

The Modifications, or Mods, studies for various storage levels were:

a. Mod 1 - Original Plans (various authors)
b. Mod 2 - Contain largest storm of record (120,000 acre-ft)
c. Mod 3 - Storage to prevent backflow to Lake Michigan (50,000 acre-ft)
d. Mod 4 - Conatin 1 year storm (20,000 acre-ft.)

The recommended plan, identified as the Tunnel and Reservoir Plan (TARP), was finalized in the August 1972 Summary of Technical Reports. The following table summarizes the basic elements of each TARP alternative along with cost data as derived from the Technical Report Part 7, dated December 1972.

COST SUMMARY OF PRIMARY TARP ALTERNATIVES @ 1972 COST BASE

($ Million Dollars)

Alternative	Storage[1] (acre-ft.)	Capital[2] Costs	Present[3] Worth Capital	Present Worth O&M	Present Worth Total
G - 1 Quarry @ McCook	50,000	1,344	1,002	296	1,298
H - 2 Quarry @ McCook & Calumet	50,000	1,223	912	301	1,213
J - 3 Quarry @ McCook, Stearns & Calumet	50,000	1,235	921	303	1,224
S - 2 Storage @ McCook & O'Hare	50,000	1,312	979	299	1,278
TARP - 3 (1972) Storage @ Stickney, O'Hare Stearns	57,000	1,246	928	230	1,158
TARP - 4 (1975) Storage @ McCook, Cabinet, O'Hare, in-line	57,000	1,190	900	230	1,130

1. Reservoir Capacity below - 100 C.C.D. elevation
2. Capture, Conveyance & Storage Costs exclusion of local sewer improvements
3. 50 yr. life @ 7% interest rate

In evaluating the four alternatives recommended by the FCCC, the MSDGC compared alternative G, which included an interconnection of the O'Hare tunnels with the lower Des Plaines tunnels and McCook reservoir, against alternative S that excluded the interconnection, but provided a separate reservoir in the O'Hare Service Area. As indicated in the above table, the costs of the interconnection resulted in net increase of approximately $32 million in capital costs above the 2 storage concept. As such, it was concluded that the interconnection should not be made.

Following the adoption of TARP in 1972 several considerations necessitated a reevaluation of the 1972 proposal. Briefly, they consisted of:

- The need to optimize the plan and cut costs where ever feasible.
- Stearns Quarry was found not to be available.
- The need to stage the construction effort and proceed in such a fashion that benefits would not be delayed pending completion of other TARP components.

The reevaluation resulted in 5 major revisions in the 1972 plan. These revisions are presented in the January, 1975, MSDGC, "Facilities Plan Overview Report," and are discussed in Appendix B. As shown above, the revisions have resulted in further cost savings.

Based upon our review of the documents and analyses generated over a period of several years, we find that separating, the O'Hare service area, and the building of a Water Reclamation Plant and conveyance system is justified and should occur at the earliest practicable date.

B. Capacity of the Proposed WRP

Three capacities have been considered in sizing the proposed Water Reclamation Plant. They are 48, 60 and 72 MGD. The ultimate design of the facility for the O'Hare Service Area is projected at 96 MGD. (See Appendix H for projection of ultimate size.)

To evaluate the design plant size, a derivation of forecasted flows as a function of projected residential, commercial and industrial growth was evaluated. The flow analysis follows:

Derivation of Flows

In forecasting wastewater flows to be generated in O'Hare Facility Area, the following information is required:

*Unit wastewater flow, gallons Per Capita Per day (GPCPD), based on sewer gaging records.

*Projected rate of increase of sewage flow based on assessment of historical data and future events.

*Projection of industrial flow.

*Quantity of allowable infiltration.

*Quantity of combined sewer overflows to be captured and treated.

In 1970, flows from the O'Hare Service Area were measured and recorded at the Rand Road Sewer Gaging Station. These data indicated that average daily flow was 31.6 MGD.

Total Population in O'Hare Facility in 1970 = 223,000

Sewered Population in O'Hare Facility Area in 1970 = 200,700

Average Dry Weather Flow = 95% (Measured Flow) = 30 MGD

Based on these assumptions, the unit wastewater loading in the O'Hare Service Area in 1970 was 150 CPCPD. This value includes contributions from domestic, infiltration and industrial sources, but excludes quantities spilled from combined sewer overflows.

Rate of Increase of Sewage Flow

In designing a sewage treatment facility it is necessary to consider the future flows in terms of anticipated increases in population and per capita flows. The methodologies, assumptions, and flow estimates generated by the MSDGC are presented in Appendix P.

Our review of the MSDGC O'Hare Facility Plan raised several questions regarding their projected design flows. Of particular concern were projected increases in the domestic GPCPD (gallons per capita per day) factor and industrial acreage over time. Concern was also generated with the apparent lack of treatment capacity needed for the substantial quantities of combined sewer overflows that will be intercepted by the conveyance system. In order to demonstrate the effects of MSDGC assumptions on the design flow, an alternative calculation employing more reasonable estimates of domestic GPCPD factors and industrial acreage, together with a discussion of tunnel dewatering requirements follows.

DOMESTIC GPCPD FACTOR

MSDGC estimates that domestic GPCPD will increase from 73 in 1970 to 113 in 2000, approximately an increase of 1.33 GPCPD per year for the 30 year period. Apparently, this assumption was derived from MSDGC's analysis of 1966 and 1970 data which indicated that the rate of per capita increase including domestic, industrial and infiltration flow was 2.67 GPCPD/year; thus MSDGC attributed 50% of the change to increased domestic GPCPD.

From MSDGC's data, it is not at all clear that this is a reasonable assumption. Their analysis used per capita consumption from one data source and estimated population from another to derive the rate of increase. Of the five communities included in their analysis, one had the same per capita consumption in 1966 and 1970 and two actually decreased in this period. The overall increase in water consumption was caused by significant increases in GPCPD in the two largest communities. At the minimum, a separate analysis of increased industrial usage for these areas should have been performed for the same period.

Once an area is sewered (which usually results in a marked increase in GPCPD as septic tank overloading no longer concerns the family) increasing domestic water usage relates to increasing real per capita incomes and rising standards of living. Given the current national economic situation and projections, it is no longer obvious that per capita water use will increase as rapidly (if at all) in the coming years as in the prosperous 1960's. Related to this is the ever worsening inflation causing increased utilities costs of all kinds to consumers resulting in a very definite economic incentive to reduce non-essential consumption.

For the purposes of our alternative calculation, it has been assumed that domestic GPCPD will annually increase at about half the rate used by MSDGC. Given the above discussion, it is debatable that even this rate of increase is too generous, but it was utilized to arrive at the following table.

ALTERNATIVE CALCULATION

DOMESTIC FLOWS AND INFILTRATION

Year	Pop. (1000)	Domestic GPCPD	Infiltration Allow.	GPCPD Exc.	GPCPD Total	(MGD)
1970	223[1]	73	33	15	121	24.3
1980	261	77	33	0	110	28.7
1990	277	84	33	0	117	32.4
2000	300	94	32	0	126	37.8
2010	315	95	32	0	127	40.0
2020	332	96	32	0	128	42.5
2030	250	97	31	0	128	44.8

[1] Sewered population in 1970 = 200,700

Note: Population and infiltration data as presented by MSDGC.

INDUSTRIAL LAND USE

MSDGC estimated that industrial land use for the area will increase from approximately 2000 acres in 1970 to 7300 acres by the year 2000; this is an increase of 265%. During the same period, population is projected to increase by 34%. Thus, MSDGC is saying, in effect, that industrial activity will increase roughly 9 times faster than population in this area. This results in an apparent conflict between projected industrial activity and available labor force.

As an alternative industrial land use projection methodology we have employed the OBERS Series E projections on economic activity in the Chicago

SMSA. The OBERS projections are internally consistent with respect to increased economic activity and increased population and employment. The population projections used in the MSDGC plan, which were provided by Northeastern Illinois Planning Commission, are basically consistent with OBERS Series E. OBERS projects an 28% increase in population between 1970 and 2000 for the entire Chicago SMSA; NIPC projects a 34% increase for the O'Hare facility area. This difference can probably be attributed to the out-lying suburbs growing somewhat faster than the inner core city.

The employment/population ration for 1970, 1980, 1990, 2000, 2010, 2020, 2030 was taken from the OBERS projections for the Chicago area. This ratio was applied to the NIPC population figures, giving projected employment for the O'Hare study area. Employment for each decade was then applied to the 1970 industrial acreage/employment ratio to obtain an indication of industrial acreage. It is possible that the industrial acreage/employment ratio could change over time; however, it is not believed that this ratio will vary significantly. Also as OBERS earnings data indicate, manufacturing activity (the major industrial activity) is projected to increase much slower than other employment activities, particularly services and Government. OBERS projections indicate for the listed activities in the Chicago SMSA the following percentage increases in earnings between 1970 and 2000:

Total earnings: 176%
Manufacturing: 132%
Services: 292%
Government: 219%

By using the total number of employees as an indicator of industrial acreage needs, we feel that any probable future increase in the 1970 industrial acreage/employment ratio is more than accounted for.

ALTERNATIVE CALCULATION

INDUSTRIAL FLOWS

Year	Pop.(1000)	Employment[1] Population Ratio	Employment (1000)	Ind. Acres Employment Ratio	Ind. Acres	Flow[3] MGD
1970	223	.42	93.66	.02135	2000[2]	6.4
1980	261	.46	120.06	.02135	2563	8.2
1990	277	.46	127.42	.02135	2720	8.7
2000	300	.48	144.00	.02135	3075	9.8
2010	315	.48	151.20	.02135	3228	10.3
2020	332	.47	156.04	.02135	3331	10.7
2030	350	.47	164.05	.02135	3512	11.2

[1] Ratio from 1972 OBERS Series E Projections for Chicago SMSA

[2] Acres given for 1970, derived for all other years

[3] MSDGC assumption used: 3200 GPCPD

ALTERNATIVE CALCULATION

TOTAL FLOWS (MGD)

EXCLUDING DEWATERING CAPACITY

OF 24 MGD

Year	Domestic and Infiltration	Industrial	Total Calculated	Alternative Design Flow (calc.x1.1)	MSDGC Design Flow
1970	24.3	6.4	30.7	33.8	33
1980	28.7	8.2	36.9	40.6	50
1990	32.4	8.7	41.1	45.2	62
2000	37.8	9.8	47.6	52.4	73
2010	40.0	10.3	50.3	55.3	77
2020	42.5	10.7	53.2	58.5	80
2030	44.8	11.2	56.0	61.6	83

Since preparation of the Draft EIS in March, we have further examined the cost-effective tradeoffs including relevant factors, particularly the dewatering requirements, in constructing plant capacities of 48 and 60 MGD with phased additions of 24 and 12 MGD modules versus initial construction of a 72 MGD facility.

The possibility of constructing initial capacities of 48 or 60 MGD had to be dismissed since the projected loading to the O'Hare WRP in the first year of operation is estimated to be as high as 64 MGD for sustained periods during the wet seasons. The average dry weather flows to the facility in the first year of operation are estimated to be approximately 40 MGD. The difference in these flow values is attributable to captured combined sewer overflows that must be pumped from the conveyance system and treated at the average rate of 24 MGD. Since the O'Hare WRP must be capable of processing the captured combined overflows on a sustained basis, the capacity for treatment of the overflows must be firm, installed and continuously available. The rationale for this determination follows:

1. As reported in the MSDGC Environmental Assessment for the O'Hare WRP, yearly spills after construction of the conveyances tunnels will, on the average, be reduced form 80 per year to six. During all 80 events the tunnels will convey substantially greater volumes than average dry weather flows and will surcharge or completely fill at least six times each year. To prevent septic conditions from occurring in the tunnels and to allow for subsequent rainfall incidents, dewatering must proceed at an average rate of 24 MGD or be completed in 3 days under surcharged conditions. Therefore, the 24 MGD dewatering rate must be superimposed upon the facilities average dry weather flows yielding a total rate of 64 MGD for sustained periods during the wet seasons. Closely spaced rain events, common to the Spring and Fall seasons, may result in the need to continuously dewater for periods well in excess of 3 days. Therefore, the need for installed treatment capacity to process the combined overflows is apparent.

2. It has been suggested that treatment of the combined overflows at the average rate of 24 MGD could be accomplished by utilizing the facility's "peaking" capacity. While peaking capacity is common to most treatment facilities for the purpose of accomodating diurnal peak flows, it is not available for continuous treatment at the

increased rates since critical design parameters are generally based on average conditions.

Regarding the O'Hare WRP design considerations, the following statement was extracted from the O'Hare Facilities Plan - "The design of the O'Hare Wastewater Reclamation Plant shall initially proceed as a two-stage activated plant providing for biological ammonia oxidation and meeting or exceeding all applicable IPCB effluent and stream standards at the average dry weather flow of 72 MGD".

It is obvious from the above that the design considerations do not properly account for intercepted wet weather flows. While a further reading of the design parameters will indicate that the plant shall have peaking capabilities up to 144 MGD, the peaking capacity can not be utilized for sustained dewatering cycles, to do otherwise would amount to no more than "overloading" the facility with a concomitant decrease in plant performance.

3. Given that dewatering capacity must be considered in the design of the O'Hare WRP, the question of whether or not the plant is overdesigned becomes somewhat academic. The liberal wastewater projections generated by the MSDGC appear excessive and may not be realized during the design period. The alternative flow projections developed by USEPA may be more realistic and when interfaced with dewatering requirements, may provide a more accurate reflection of the facility's full service requirements. The requirements are summarized as follows:

ALTERNATIVE CALCULATION
TOTAL FLOWS AND
DEWATERING CAPACITY (MGD)

Year	Total Calculated	Alternative Design Flow (X 1.1)	Dewatering Capacity	Total Requirement Capacity
1970	30.7	33.8	24	57.8
1980	36.9	40.6	24	64.6
1990	41.1	45.2	24	69.2
2000	47.6	52.4	24	76.4
2010	50.3	55.3	24	79.3
2020	53.2	58.5	24	82.5
2030	56.0	61.6	24	85.6

4. It is recognized that the calculated flows for the year 2000 at 76.4 MGD marginally exceeds the MSDGC design of 72 MGD. Considering the variability inherent in projecting future flows, we believe either of the above flow projections are valid for design purposes.

Therefore, based upon the foregoing analysis of wastewater projections, we find that the O'Hare WRP design year of 2000 at a design flow of 72 MGD to be a cost-effective and reasonable approach for treatment of the wastewater generated in the O'Hare Service Area.

C. Site Selection for the Water Reclamation Plant

1. Site Selection Criteria

The MSDGC has considered six possible sites and visually inspected and evaluated the sites as to which suited the intended purpose. Three additional sites were suggested by concerned citizens.

In selecting a site in 1965 - 1966 MSD applied the following criteria:

- *The site must be at least 100 acres.
- *Least expensive in terms of land acquisition and plant construction costs.
- *The least cost for construction of the intercepting system and plant outfall.
- *Close proximity to a suitable receiving stream.

Since the original purchase of the proposed site by MSD in 1966 the following changes in the collection system and proposed plant have occurred:

- *Sludge treatment processing will occur at the John E. Egan Plant located in the Salt Creek Service Area.
- *A nonconventional interceptor system of drop shafts and tunnels (See EIS on the Tunnel conveyance system) is planned to transmit wastewater to the proposed WRP.
- *The WRP plant has been designed so that it can be accommodated on a rectangular plot of land of approximately 65 acres.

Because of these changes a re-evaluation of site criteria is warranted. We believe the following site criteria are revelant.

a. The site must be large enough to accommodate the proposed WRP with an adequate buffer zone for aesthetic reasons and to allow flexibility for expansion of facilities to accommodate any new wastewater treatment technology which may be required. While an exact acreage is difficult to specify a desirable total size appears to be in the range of 80 to 100 acres for the proposed facility.

b. The costs of land, construction, operation of the interceptors, location of outfall and WRP construction should be minimized within the constraint that environmental impacts are given proper consideration in the selection process.

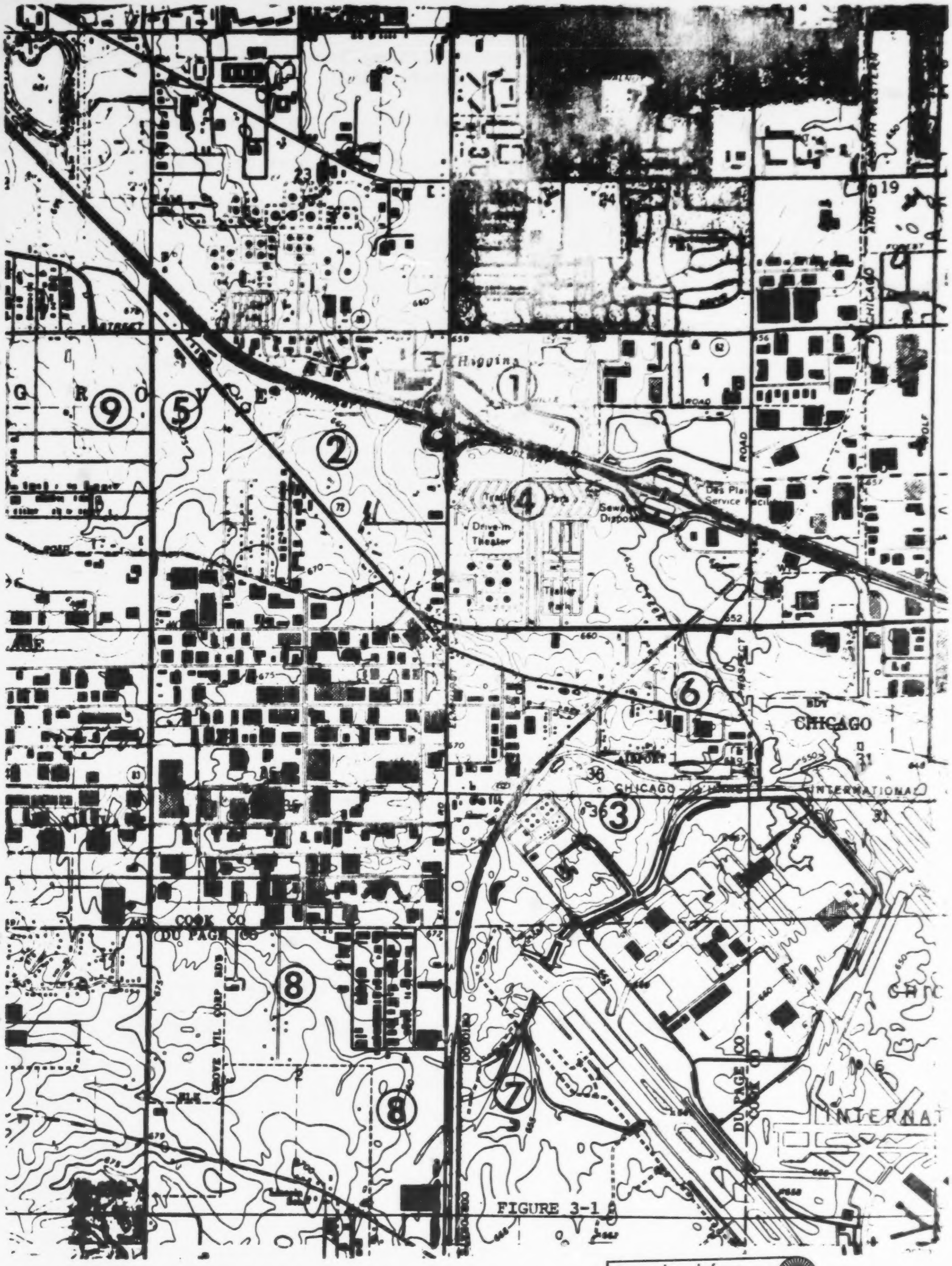
USEPA staff have visited all nine sites which are identified in Figure 3-1. A general description of each site and a discussion of the availability of these sites follows:

2. Site Alternatives & Conditions

Site #1 (East of Elmhurst Road, South of Oakton Road, North of the NW Tollway, Vacant, owned by MSD).

This is a 104 acre site that is bounded by industry on the east and west, the tollway on the south, and residential property across Oakton Street on the north. It would have direct access to the receiving stream which would be improved and relocated providing flood relief upstream. A disadvantage to this site would be the location of Wille Road which divides the site. After setting aside land for a buffer zone and road easements the total number of usable acres to the north and south of Wille Road is 65 and 28 acres respectively. This site would require 700 feet of 10 foot diameter influent sewer tunnel to dewater the 20 foot diameter main rock tunnel of the conveyance system.

The only improvement on the site is a single-family dwelling owned by MSD.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8
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G R O V E
Higgins
Drive-in Theater
Trailer Park
Sewage Disposal
Des Plaines Service Facility
CHICAGO
AIRPORT
CHICAGO - O'HARE INTERNATIONAL
COOK CO
DU PAGE CO
DU PAGE
COOK CO
INTERNAT
ROAD
24
23
19
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FIGURE 3-1

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Site #2 (South of NW Tollway, west of Elmhurst Road, North (east of Higgins) 94 acres, Vacant; owned by MSD).

This site is a triangular parcel with the north, light industrial and utility on the eastern boundary, a developing industrial area to the north west and west across Higgins Road. Some single family homes are located west of the industrial development across Higgins Road. A receiving stream is located on the site. This site would require 1,000 feet of 10 foot diameter influent sewer to dewater the 20 foot diameter main tunnel. Gas and oil pipelines across parts of this site and relocation of some of these pipelines would be necessary.

Site #3 (O'Hare Maintenance Expansion area, Approximately 85 acres, Vacant; owned by city of Chicago - not known to be in present airport expansion plans; the availability of this site is questionable).

In 1966 the airport authority said the site was not available. Recently (with the support of the airport authority) this site has been considered for a stormwater retention flood reservoir but not for siting a sewage treatment facility. This site is located in a vacant northern edge of the O'Hare Airport property. A receiving stream is located on the site and has had improvements made to it (for airport drainage purposes). A few residences are to the north within an area that is predominantly industrial development. This site would require 9,000 feet of 10 foot diameter influent sewer to dewater the 20 foot main tunnel.

Site #4 (East of Elmhurst Road, south of NW Tollway, Unincorporated Cook County, Approximately 80 acres).

The existing land use is a residential - trailer park. Extensive relocation of residences would be necessary, causing time delays, increased project costs and inconvenience to relocatees.

About 600 mobile homes are located on the site with additional mobile home space under construction in the area vacated by a former Outdoor Movie Drive-In. A receiving stream is located on the eastern edge of the site. The tollway forms the northern boundary; Elmhurst Road is the western boundary of the site. Light industrial development is west of Elmhurst Road. Petrochemical storage tanks are located southwest of the site. This site would require 2,000 feet of 10 foot diameter influent sewer to dewater the 20 foot diameter main tunnel.

Site #5 (East of Busse, South of Oakton, Unincorporated Area of Cook County, Approximately 85 acres)

Part of this site is under development as the SDK industrial park (approximately 25 acres). A 740' x 690' x 22' building is presently under construction on this site.

Higgins Road and Busse Road form the eastern and western boundaries of the site. A residential development of approximately 30 single family homes is to the south. A receiving stream is located on the site. This site would require 5,000 feet of 10 foot diameter influent sewer to dewater the 20 foot diameter main tunnel.

Site #6 (West of Mount Prospect Road, south of Touhy, Approximately 100 acres).

Several homes and industrial firms are located on this site. Old Higgins Road divides the proposed site, and Higgins Creek is at the north end of the site. This site would require 7,300 feet of 10 foot diameter sewer tunnel to dewater the 20 foot diameter rock tunnel. Extensive relocation of businesses and residences would be necessary.

Site #7 (Approach area Runway 9L, DuPage County, Approximately 100+ acres).

This site is located on O'Hare Airport, which owned by the City of Chicago. Location of a WRP at this site may cause a safety hazard to aircraft using Runway 9L. A receiving stream is located on the site. Railroad tracks and Elmhurst-York Road are immediately to the west of the site. This site is surrounded by industrial land (developed or proposed). This site would require 13,000 feet of 10 foot diameter influent sewer to dewater the 20 foot main diameter rock tunnel. Choice of this site might cause time delays due to its location in another county (DuPage) where MSDGC does not have powers of eminent domain.

Site #8 (Vacant parcels south of Devon, west of Elmhurst Road One site (off Devon) exists north of the receiving stream, another alternative, off Elmhurst, would be located south of the receiving stream. Approximately 75 acres at each location).

These sites are located east and south of the existing Centex Industrial Park.

Vacant land and industrial development surround these locations with a few residences west of the site. This site would require 12,400 feet of 10 foot diameter influent sewer to dewater the 20 foot diameter main rock tunnel.

Choice of this site might cause time delays due to its location in another county (DuPage) where MSDGC does not have powers of eminent domain.

Site #9 (West of Busse, south of Oakton, Unincorporated Cook County, Approximately 80 acres).

Several light industrial firms, 3 houses, 1 farm structure and the Halo Light Corporation (approximate Building Dimensions 900' x 990' x 26') are located on this site. This site does not have ready access to a receiving stream (2,700 feet of outfall sewer would be necessary) and would require 7,290 feet of 10 foot diameter influent sewer to dewater the 20 foot diameter main rock tunnel. Extensive relocation of industries would be required at this site.

Since the draft Environmental Impact Statement was written additional information has been obtained for various sites. At the request of USEPA the MSDGC prepared detailed engineering, environmental impact and cost data for all sites. This analysis is found in Appendix Q. Mr. Richard Ward, Alderman 8th Ward, City of Des Plaines submitted a comparative density analysis of sites 1 and 2 and an environmental impact matrix for sites which are found in Appendix R.

On March 25, 1975 USEPA sent a letter to the Department of Aviation, City of Chicago requesting information on sites 3 and 7. On April 11, 1975, we requested information on site #8 in DuPage County. These letters by USEPA and the responses received are found in Appendix V. The Department of Aviation has indicated that since the airport land was purchased with funds partially funded with FAA funds they must adhere to certain conditions on the use of the land. Since a water reclamation plant would not have any direct benefits for the airport they are prevented from allowing such use. The DuPage County Regional Planning Commission indicated that considerable delays would be associated with any proposal to construct the proposed WRP on Site 8. For example, the site would require a special use zoning designation which involves a public hearing process prior to any changes. Given the critical need for this project, such delays are unacceptable.

The site selection process which follows assumes that the reader has reviewed the Appendices Q, R and V. USEPA analysis will address these documents as they relate to our analysis in the site selection process.

3. Environmental Factors Common to All Alternatives

a. Water Quality

Impact on the water quality will be beneficial and will be felt on an area wise basis. The quality of the receiving stream will most likely be enhanced due to the anticipated high quality of O'Hare WRP's effluent. Other streams within the O'Hare Facility Area which presently receive combined sewer overflows will also be improved as result of reduction in such discharges. These improvements will be effected within and outside the O'Hare Facility Area regardless of the plant location. Therefore, it can be assumed that one site would be no more or no less advantageous than another in terms of impact on water quality.

b. Noise

Noise generated by routine plant operation will be attenuated by use of acoustical building materials and mechanical devices. Noise will be minimized to the extent that it will not be detectable beyond the plant limits. Hence, the site selection process is not affected by consideration of noise as an impact on the environment.

c. Visual Effect on the Surrounding Area

The proposed O'Hare WRP is designed to have an aesthetically pleasing appearance. The four main buildings will have an earthy brownish brick facing mixed with glass and precast architectural concrete. Areas exposed to the public will be architecturally landscaped. In general, the plant complex will be similar in appearance to many office parks or light manufacturing buildings found in the surrounding areas. Since all of the sites considered, except Site No. 3, are within areas zoned for light industry, the plant is visually well suited for placement in any of the sites considered. Thus, site selection process is not influenced to any substantial degree by consideration of visual impact on the various sites.

d. Flood Potential

In order to avoid creating flow problems with the plant discharge, the receiving stream will be improved. A floodplain compensating reservoir will also be constructed to minimize the potential for flooding.

4. Preliminary Screening of Site Alternatives

a. Site 4, (Residential Trailer Park) Site 5, (Large Industrial Building), Site 6 (Extensive Industrial Development) and Site 9 (Industrial Building) are being eliminated, from further consideration since these sites have physical structures committed to specific land uses. USEPA believes it would be counterproductive to tear down existing structures and relocate existing residences and industries when acceptable vacant sites exist within the service area.

b. Site 7 is being eliminated because it lies in the "clear zone" approach to runway 9L on O'Hare International Airport. In addition, the WRP would not have any direct benefits for the airport.

c. Sites 3 and 8 are being eliminated for the following reasons:

1) The airport authority cannot allow the construction of a sewage treatment facility (Site 3) on its land. Site 8 is vacant and for sale, it lies in DuPage County and the acceptance by DuPage County of siting a WRP in that location would be a very time consuming process.

2) The construction of the WRP should occur as soon as practical to alleviate the degradation of Weller's Creek due to combined sewer overflows and to provide treatment capacity for the O'Hare Service Area.

3) The proposed Water Reclamation Plant appears to be adequately designed and will have a positive environmental impact on the water quality of the receiving streams in the area including the Des Plaines River.

4) The funding of needed water reclamation plants should not be unnecessarily delayed. Water reclamation plants are necessary to prevent severe degradation of water quality and as an economic stimulus to the local and national economy.

5. Final Selection Process

Both Sites 1 and 2 are owned by the MSDGC. Each site has enough acreage to allow plant layout that follows sound engineering design criteria.

Site 1 has commercial and industrial land-use on 2 sides with residential to the north and a residential area (beyond the tollroad) to the south.

The Northeastern Illinois Planning Commission (NIPC) has identified actual land use by acres as of 1970. The land use for the quarter section within which site 1 is located follows:

Site #1

Category	Acres
Residential single family	3.6
Streets	28.8
Vacant, agriculture, forest	126.0

Site 2 has higher percent of commercial and industrial land use around it and has residential areas to the North West, North East, East, South East and South West. NIPC land use data for the 2-quarter sections within which site 2 is located follows:

Category	Acres
Residential single family	2.4
Manufacturing	47.1
Streets	50.7
Trade	16.9
Vacant	186.2
Warehousing	4.8
Hotels	6.0

Appendix R contains a graphical plot of population versus distance from the center of the aeration tanks for site 1 and site 2. From viewing this graph it is apparent that more people (based on residences) live closer to site 1 than site 2.

During investigations into siting alternatives USEPA looked at the possibility of maximizing distances to residences by alternate placement of the WRP, on sites 1 and 2 (all distances are approximations based on map estimations). A layout of the plant to maximize distance from aeration tanks was assumed. The center of the aeration tanks was used as the reference point in determining distances. Three options were considered:

A) - Present WRP layout on site 1 (restricted to North of Wille Road by City of Des Plaines refusal to vacate) From center of aeration tanks to:

(1) Residential area to North = 530 feet

(2) Residential area to South = 2,380 feet

B) - Alternate layout on site 1 (Wille Road vacated)

(1) Residential area to North = 1,480 feet

(2) Residential area to South = 1,480 feet

C) - WRP located on site 2

(1) Residential area to NE = 3,100 feet

(2) Residential area ESE = 2,640 feet

(3) Residential area SW = 1,840 feet

(4) Residential area NNW = 1,840 feet

After examining the above facts it appears that the greater distances from residences achievable with Site 2 may give it an advantage with respect to the viability of dispersed aerosols. However, we must take all factors into consideration in the site selection process. Because there has been and continues to be a critical need for this proposed project and the associated tunnel conveyance system, it is clear that this agency must proceed to assist in the implementation of the proposed project as soon as possible. Moving to Site 2 would delay the project from several months to several years. Since the plans and specifications are already available for Site 1 and would need to be revised, USEPA concurs that Site 1 is acceptable for funding under Public Law 92-500 as the most cost-effective alternative and that it meets the requirements of NEPA.

Site 1 however, is subject to objections by nearby residents. Some of the major concerns expressed by local residents in the siting of the treatment plant were the degradation of air quality due to odors being emitted from a sewage treatment plant and the generation of aerosols during the processing of sewage which might present a potential health hazard to the adjacent residential communities.

In responding to these concerns the MSDGC has prepared position papers on health effects (Appendix I) and odor problems (Appendix J). The USEPA Office of Research and Development of Region V corresponded with EPA labs concerning the status of potential and known health hazards. A questionnaire was developed and distributed to people recommended by (1) USEPA staff, (2) three individuals suggested by Mr. Richard Ward who represents the City of Des Plaines and (3) the MSDGC (MSDGC stated their position paper would represent their response). The questionnaire, and responses to it can be found in Appendix D.

Based on all the information available, it is the conclusion of USEPA that no demonstrable health hazard has been shown to exist with respect to the operation of activated sludge facilities, such as the one proposed for the O'Hare WRP. (Evidence supporting this conclusion is discussed in detail in Chapter 5).

However, there is also a notable absence of conclusive scientific evidence that a potential health hazard does not exist from the operation of the proposed Des Plaines - O'Hare Water Reclamation Plant. Additionally, we must recognize the concern of the local community, expressed both at the public hearing and through written communications, for the construction of a facility which will not pose a risk to the public health. The Illinois Environmental Protection Agency has also indicated its serious concern with the risk associated with the aerosol transmission of bacteria and viruses, and in fact has certified this project conditioned upon provision being made to account for this risk. Therefore, we feel compelled to conclude that the project as presently proposed does not fully satisfy the spirit, intent and purpose of the National Environmental Policy Act. As stated in the Act itself, its purpose is to "encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man." The possibility here, if any, of aerosol transmission of bacteria and viruses to the residential areas in close proximity to Site 1 should be mitigated given the assurances provided under the National Environmental Policy Act and the concerns of the IEPA and the local residents. Additionally, we feel that to introduce a large facility into an area where none had existed before and which might possibly pose a potential health hazard in an environment which is already severely impacted by the degraded air quality and noise resulting from O'Hare International Airport requires certain mitigative measures. We believe that the most unacceptable risks are those taken at the potential expense of public health. It therefore behooves us to take a conservative approach in the application of mitigative measures.

We shall therefore require that the MSDGC design, construct and maintain facilities to adequately suppress, to the satisfaction of IEPA and USEPA, the movement of aerosols, emanating from the aeration tanks, on the proposed site.

With respect to odor considerations, USEPA believes that the odor control measures planned for the O'Hare facility will prevent problems from occuring (See Appendix J and Chapter 5). Should it be the case that odor problems occur the MSDGC has indicated their willingness to take steps to mitigate any future problem. In a letter to this agency MSDGC has indicated that they will take every reasonable action to safeguard the health of the citizens they serve.

The present buffer zone (150 feet) available on Site 1 is smaller than MSDGC had planned. Originally, they had proposed that the City of Des Plaines vacate Wille Road, allowing a larger buffer zone, in exchange for building a north-south road on the east end of Site 1. USEPA believes that a larger buffer zone would allow for additional landscaping, especially on the northern boundary of Site 1. Even with a larger buffer zone, however, we still believe it would be necessary to provide adequate aerosol suppression facilities in view of the foregoing conclusions.

D. Other Facility Alternatives

The following three subsystems were evaluated by the MSDGC: conventional facility at grade, conventional facility at grade with covered tanks, and an underground facility. Further discussion concerning various environmental effects will be covered by a comparative analysis of the effects caused by the three subsystems.

1. Aesthetics

All three alternate subsystems can be designed in an aesthetically pleasant manner. While the underground facility may have less than half the number of buildings, the total area of buildings compared to total site area is a small percentage in either subsystem. The at grade facility will have a moderate increase in the cost of landscaping to screen the tanks. The covered at grade facility will have an added increase in cost for aesthetics, aside from the expense of covering the tanks.

The at grade facility has a low density of buildings and structures to the total site area. The buildings are designed with materials and form to be in harmony with the surrounding area. They are arranged to serve the process and form an aesthetically pleasing complex. Tanks are kept low in profile, with earth bermed up to them where they do extend above grade. Further, the landscaping has been designed to provide for both screening purposes and controlled views into the plant site as dictated by aesthetic judgment.

The completely covered at grade facility subsystem presents a more difficult problem to design in an aesthetically pleasing manner. The closely spaced geodesic domes which cover the sedimentation tanks are approximately 160 feet in diameter and 30 feet high and will require more extensive use of landscaping.

Either the at grade covered facility or the underground facility will require extensive heating and/or ventilating over and above that required by the conventional at grade facility. This increased requirement will substantially affect the electrical service station and result in an open metal structure some 30 feet high which would be difficult to screen with landscaping.

2. Land Use

In reviewing the three alternate subsystems under consideration, we find land area requirements to be virtually the same for all subsystems.

The completely covered at grade facility subsystem would require a greater percentage of the site to be covered with structures than the other subsystems because additional building areas would be needed to house additional air handling systems required for ventilating the enclosed structures.

The underground subsystem would require four times the space requirement for the electrical service station and emergency power generation equipment than required by the at grade facility, but would reduce the net site coverage by structures from the other subsystem. The allowable rock removal for the Niagaran formation, in which the underground facility would be constructed approximates

25%. The effect is to spread the facilities out and, in fact, cover an area, underground, similar to that required by the at grade facility with the 150 foot buffer zone provided. Because numerous air shafts and vertical exit ways would be necessary for protection of employees, the surface site area requirements would remain the same. The areas of land between air intake and exhaust shafts and exit stairways could be used for park activities, such as bicycle paths, walks, and so forth, if a local park district would join the Metropolitan Sanitary District in a joint effort. It is the opinion of the MSDGC that no permanent structures for non-plant usage could be constructed within the area of the site.

3. Safety

Normal safety measures are included in the design of the at grade facility. Life safety requirements in either completely covered facility would be increased because of ventilation, toxic gases and explosive gases. The O'Hare Tunnel Conveyance System will control the level of wastewater in the tunnel by allowing sewer overflows at grade when the tunnel storage capacity is reached. This condition could occur six times per year. If a malfunction should occur, the possibility of flooding the underground facility does exist. The requirement of meeting present code regulations for exiting from a below ground facility would be more expensive and more difficult. This would require numerous vertical shafts to grade to meet maximum travel distances.

Many areas of an underground facility would have to be designed for explosion-proof construction. An extensive combustible gas detection system and lack of oxygen detection system would have to be installed. An extensive intercommunication and emergency evacuation alarm system would have to be installed.

Redundant electrical systems would have to be provided to insure the utmost in reliability for critical electrical equipment, such as elevators, sump pumps, and critical ventilation systems.

Considering safety, it is our opinion that the underground facility is the least desirable alternate subsystem, while the other two alternate subsystems are about equal.

4. Consumption of Resources

Both the covered at grade facility and the underground facility will require a significant increase in ventilation as compared to the conventional at grade facility. Due to the generally lower temperatures of the surfaces within the underground facility, condensation can occur on those surfaces when moist ventilation air is introduced into the plant operation areas. This situation will result in wet walkways, fog, dripping ceilings, corrosion of electrical fixtures and controls, and other safety and maintenance problems. To combat this in the summer time, the air must be mechanically dehumidified prior to introduction into the underground chambers. In the winter time the air must be heated before introduction into the chambers and then mechanically dehumidified and reheated prior to discharge to avoid the formation of an aesthetically displeasing cloud at the ground surface. The underground facility would also require an increase in available lighting and would require continuous operation of those facilities.

The combined additional energy requirements for heating, ventilating and lighting of the covered at grade facility over and above that required for the conventional at grade facility would be 9,000 KW. The cost of that energy would be approximately $35,000 per month. The combined additional energy requirements for heating, ventilating and lighting of the underground facility over and above that required for conventional at grade facility would be 35,000 KW. The cost of that energy would be approximately $150,000 per month.

Both the covered at grade facility and the underground facility would require an additional air handling building at grade not required by the conventional at grade facility. The construction material required to cover the at grade facility is an additional depletion of resources. The underground facility will, at best, use the same amount of concrete required for the conventional at grade facility in the areas of the aeration tanks and sedimentation tanks, because added concrete would be required due to overbreak in construction against rock and the advantages of common wall construction in aeration tanks and of ring wall construction sedimentation tanks will be lost.

5. Construction and Cost Considerations

The cost for mining of the underground facility is significant. It could be related to the excavation work required for the conventional at grade facility and the covered at grade facility.

The volume of rock to be mined is at least four times as much as the volume of earth to be excavated. The cost advantage in this item would go to the two at grade subsystems.

The cost of labor for the building trades when working in a mined environment performing work normally done in the open air, is expected to increase approximately 25% over the at grade subsystem costs. Part of this increase would be due to anticipated loss of productive time for movement of workers to and from the actual work stations.

The underground facility has the potential advantage of year-round work on the project. However, sufficient work on the at grade plant probably can be put under roof by a contractor to keep his work force busy through the cold months. The projected construction schedule of the underground facility is five years, while the construction schedule of the at grade facility is three years.

The cost of additional safety equipment, electrical equipment, heating and ventilating equipment and construction materials is a disadvantage to the underground facility and the covered at grade facility.

Comparative Construction and Operation and Maintenance Costs for the Three Alternate Subsystems are as follows:

	Construction Cost $ Million	Operation & Maintenance Cost $ Million/Year
Conventional At Grade Facility	95.0	2.85
Covered At Grade Facility	125.4	3.33
Underground Facility	197.2	5.05

From the standpoint of construction and costs the least desirable subsystem is the underground facility, while the most desirable is the conventional at grade facility. The initial design of the facility should be a conventional at grade WRP, with the addition of adequate aerosol suppression facilities as discussed in the previous section.

E. Process Alternatives

The MSDGC's long range plan for process and collection facilities was developed on a total systems approach. Alternative methods of meeting the needs of each of the MSDGC's sub-areas were evaluated. The bases for adopting the selected facilities plan for each of the sub-areas were cost-effectiveness, environmental soundness and compatibility with the total system plan.

Four basic alternatives were considered by the MSDGC. These were: land treatment, treatment and reuse, treatment and discharge, and no action. Extensive consideration was given to the land treatment alternative. It was however rejected because of the difficulty in obtaining land on the scale needed for the project and because of the many institutional problems associated with its implementation. Wastewater effluent reuse was rejected because of technical difficulties and the adequate water supply in the area. No action would allow the present combined sewer overflow to continue, resulting in severe impacts on the water quality of local streams.

As part of the selected alternative, treatment and discharge, several subalternatives for the provision of nitrogen removal were also evaluated. As a consequence the proposed plant was designed as a conventional one-stage plant or as a two stage, nitrification plant. A detailed discussion relating to the analysis of process alternatives can be found in Appendix L.

F. Solids Handling Alternatives

Several system and subsystem alternatives were considered for processing the solids generated in the treatment process. Five basic methods were evaluated for stabilizing the solids before dewatering. These included anaerobic and aerobic digestion, composting, lime stabilization and thermal processes. After examining these alternatives heat anaerobic digestion was selected because: 1) costs are well defined and the method is cost-effective; 2) MSDGC has design and operating experience; and 3) no adverse environmental effects are known to exist.

Various mechanical solids dewatering processes were investigated by the MSDGC for the next step in the solids handling process. They included: vacuum filtration, centrifugation, plate and frame filters, and the belt filter press. The results of an engineering and economic analysis favored processing the solids generated in the Northwest region of the MSDGC at a central facility. The John Egan WRP, in the Salt Creek Basin to the west of this project area, has been chosen as the sludge processing facility. Centrifugation as a means of mechanical dewatering at the Egan WRP is based on pilot studies recently conducted by the MSDGC on alternate dewatering systems at the Hanover Park WRP.

The final solids disposal options available to the MSDGC are landfill and land application. At the present time, the MSDGC uses land application as a method of final disposal. However, for planning purposes, both methods are considered viable techniques. Therefore, various combinations of solids stabilization processes together with the two final disposal techniques, taken singularly or together, were evaluated. Appendix M presents a summary of the cost analyses of the alternative disposal systems recommended for the Egan WRP as well as a more detailed discussion of all the alternatives considered, including environmental considerations. The John E. Egan WRP is presently nearing completion and is expected to go on line in September 1975. Until centrifuges are installed (in approximately two years) sludge will be transmitted via interceptor to the MSD Northside plant and then on to the WSW plant where it will be placed on barges and sent to Fulton County for land application. By the time the O'Hare plant becomes operational sludge will be dewatered with centrifuges at the John E. Egan WRP and then either spread on land as a fertilizer or hauled to a landfill site for final disposal.

CHAPTER 4

DESCRIPTION OF THE PROPOSED ACTION

A. Treatment Facilities

The O'Hare WRP will be designed as a two stage activated sludge process. Carbonaceous matter will be removed in the first stage followed by biological oxidation of ammonia to nitrite and nitrate in the second stage. Final effluent polishing and disinfection prior to discharge into the rerouted Higgins Creek will be accomplished by dual media filters and sodium hypochlorite, respectively.

The O'Hare WRP will also provide complete treatment for combined sewer overflow entrapped and stored by the O'Hare Tunnel System. Capacity for the treatment of stored combined sewer overflows is inherent in this design as the design parameters take into consideration peaking requirements and as the combined sewer overflow elimination system will provide a flow equalization capacity. As a consequence, the treatment of steady state dewatering flows up to 1.5 times average dry weather flow will be possible within the required dewatering time ranges.

All of the waste activated sludge generated in this plant will be pumped via force main to the John E. Egan WRP for treatment and disposal. The decision to treat O'Hare WRP sludge at the John E. Egan WRP was based on economic and engineering feasibility studies which favored a central sludge processing facility for those two facilities.

The anticipated average dry weather flow by the year 2000 is 72 mgd. The construction of O'Hare WRP will proceed in two stages. The first stage of construction is now designed to treat an average dry weather flow of 72 mgd. The ultimate design capacity is 96 mgd.

The plant is proposed to be located on a 104 acre site north of Northwest Tollway and east of Elmhurst Road.

Detailed design data is given in Appendix M. Figure 4-1 shows the site plan for the plant.

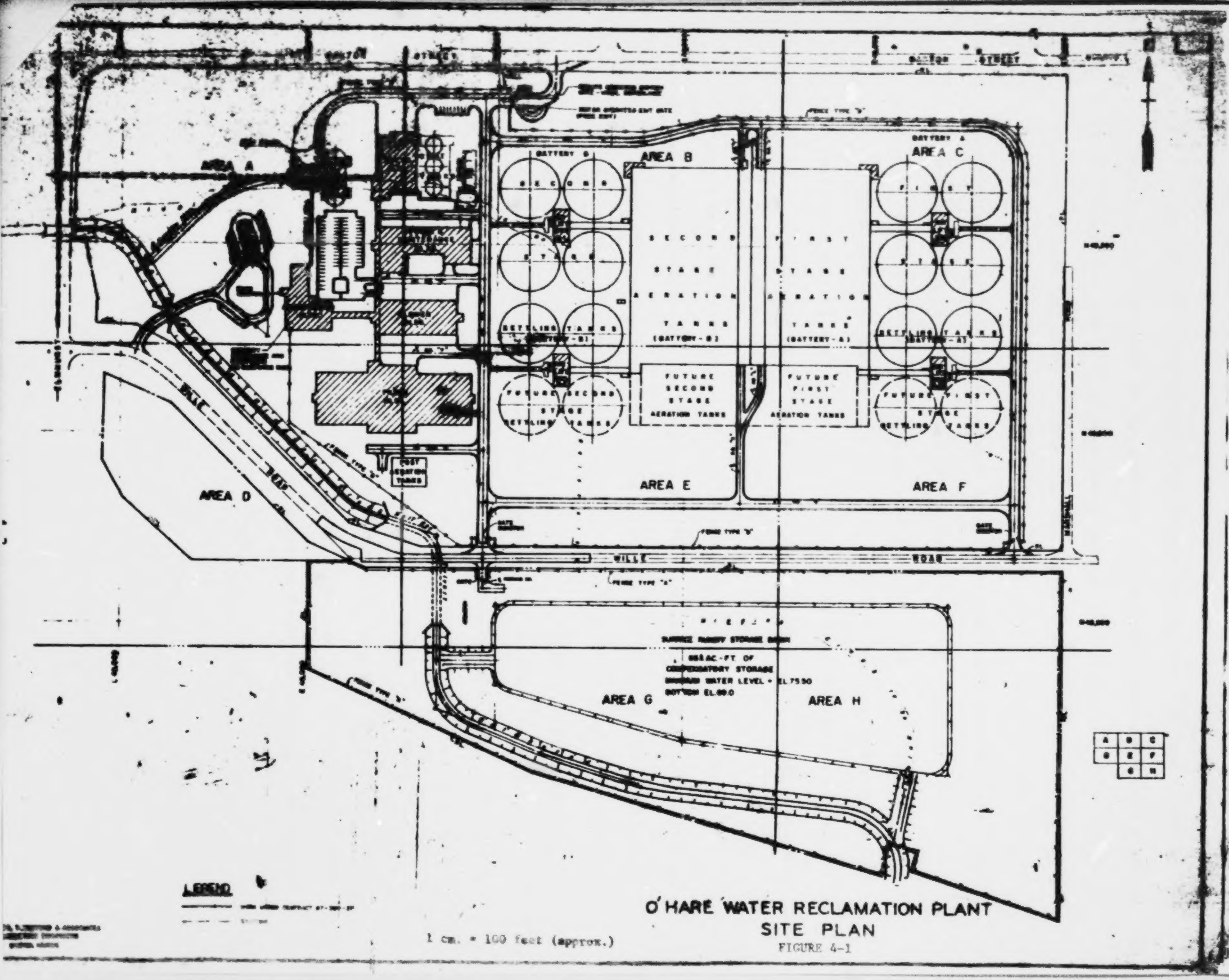
B. Effluent Disposal System

The O'Hare WRP will discharge its effluent to the relocated Higgins Creek on the plant site in the vicinity of the relocated creek and Wille Road via a concrete culvert system sized for two times the ultimate plant design flow of 96 mgd.

The discharge from the O'Hare WRP will comply with the Illinois Pollution Control Board (IPCB) criteria of which the significant regulations are a 5-day BOD of 4.0 mg/l, a suspended solids content of 5 mg/l, an ammonia-nitrogen level of 1.5 mg/l, and a fecal coliform concentration of 400 counts/100 ml.

The dissolved oxygen level of the effluent will be sufficiently high to support warm water biota.

Plans are now being made by the MSDGC to improve Willow and Higgins Creeks downstream of the O'Hare WRP to provide for the peak plant effluent and storm flow conditions. The Higgins Creek Channel on the plant site will be rerouted to aid in the arrangement of treatment units. Willow-Higgins Creek channel modifications are intended to begin at the east side of the Lee Street Reservoir (1/2 mile east of Lee Street) and continue to a point approximately 1/4 mile south of Higgins Road. With the reservoirs in place, the maximum flow in the improved channel would be limited to approximately 1200 cfs at the end of the improvement. The Creek will be relocated into a concrete lined channel on the proposed site. About 300 feet of the channel will be completely enclosed. This channel improvement, in conjunction with



BOLTON STREET
AREA A
AREA B
AREA C
AREA D
AREA E
AREA F
AREA G
AREA H
BATTERY B
BATTERY A
SECOND STAGE SETTLING TANKS (BATTERY-B)
SECOND STAGE AERATION TANKS (BATTERY-B)
FIRST STAGE AERATION TANKS (BATTERY-A)
FIRST STAGE SETTLING TANKS (BATTERY-A)
FUTURE SECOND STAGE AERATION TANKS
FUTURE FIRST STAGE AERATION TANKS
FUTURE SECOND STAGE SETTLING TANKS
FUTURE FIRST STAGE SETTLING TANKS
POST AERATION TANKS
FENCE TYPE "B"
FENCE TYPE "A"
WILLE ROAD
SURFACE RUNOFF STORAGE BASIN
AC-FT OF COMPENSATORY STORAGE
WATER LEVEL = EL.75.50
BOTTOM EL.66.0
LEGEND
A B C
D E F
G H

O'HARE WATER RECLAMATION PLANT
SITE PLAN

1 cm. = 100 feet (approx.)

FIGURE 4-1

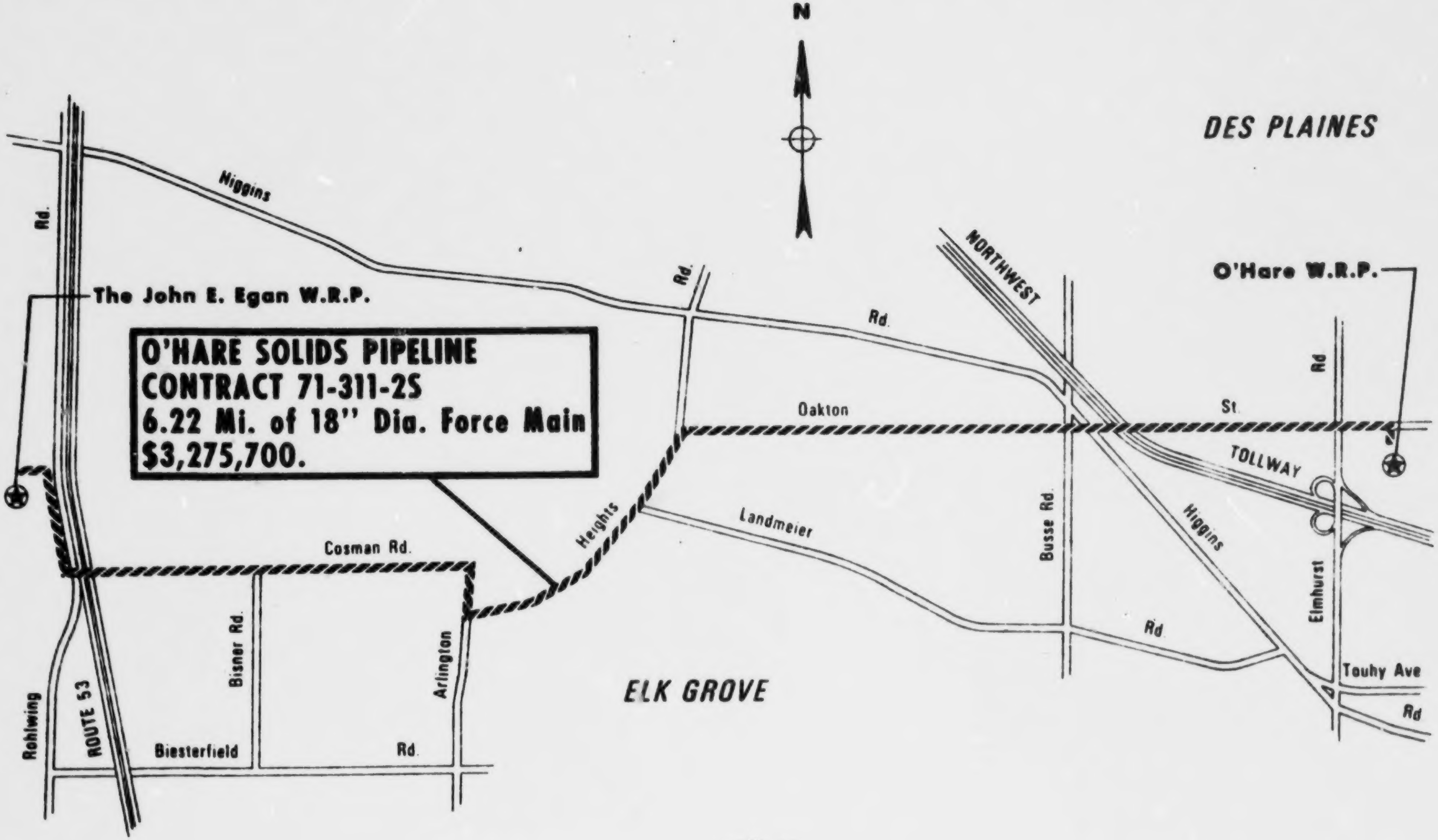
the reservoirs, will protect for the 100-year storm event. Without the reservoirs and channel improvements, flooding can be expected at a frequency of once every two years. The channel improvement will convey 120 cfs of flow whereas the peak flow, without any improvement, is in the area of 2500 cfs for the 100-year storm. Flood flows would cover Mannheim and Higgins Roads. The commercial facilities adjacent to the Creek would be flooded. Residential areas south of Higgins would be flooded with flows seeking to pass downstream using the existing streets. Flows enter the lower levels of buildings filling the sanitary sewers with storm flows and flooding other basements through sewer backups. The Ravenswood Reservoir, Lee Street Reservoir sites, and the area of Willow-Higgins Creek channel improvements are shown on Figure 2-5.

A storm water retention basin may be located on the plant site and would be integrated with the development of the facility. The retention basin would entrap and control the increased runoff due to the development of the site and would provide for the storage lost in the site development.

C. Solids Disposal System

As indicated previously all the waste activated sludge will be pumped via a pipeline to the John Egan WRP for further processing. The proposed pipeline route is illustrated in Figure 4-2.

Stabilization of solids will occur in four 110-foot diameter digesters designed for high rate anaerobic digestion. Mechanical dewatering of the sludge will be accomplished by centrifugation. The sludge will then be disposed of either in a landfill operation or spread on land by manure spreaders.


N
DES PLAINES
O'Hare W.R.P.
The John E. Egan W.R.P.
O'HARE SOLIDS PIPELINE
CONTRACT 71-311-2S
6.22 Mi. of 18'' Dia. Force Main
$3,275,700.
Higgins
Rd.
Rd.
Rd.
NORTHWEST
Rd
Oakton
St.
TOLLWAY
Heights
Landmeier
Busse Rd.
Higgins
Elmhurst
Cosman Rd.
Bisner Rd.
Arlington
Rd
Touhy Ave
Rd
ELK GROVE
Rohlwing
ROUTE 53
Biesterfield
Rd.

THE METROPOLITAN SANITARY DISTRICT
OF GREATER CHICAGO

ENGINEERING DEPARTMENT

NOV. 1974

FIGURE 4-2

CHAPTER 5

ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION

A. Water

1. Water Quality

There will be a beneficial effect on the waters of Weller's Creek and Feehanville Ditch by the reduction in the frequency and volume of the combined sewer overflows to those waterways.

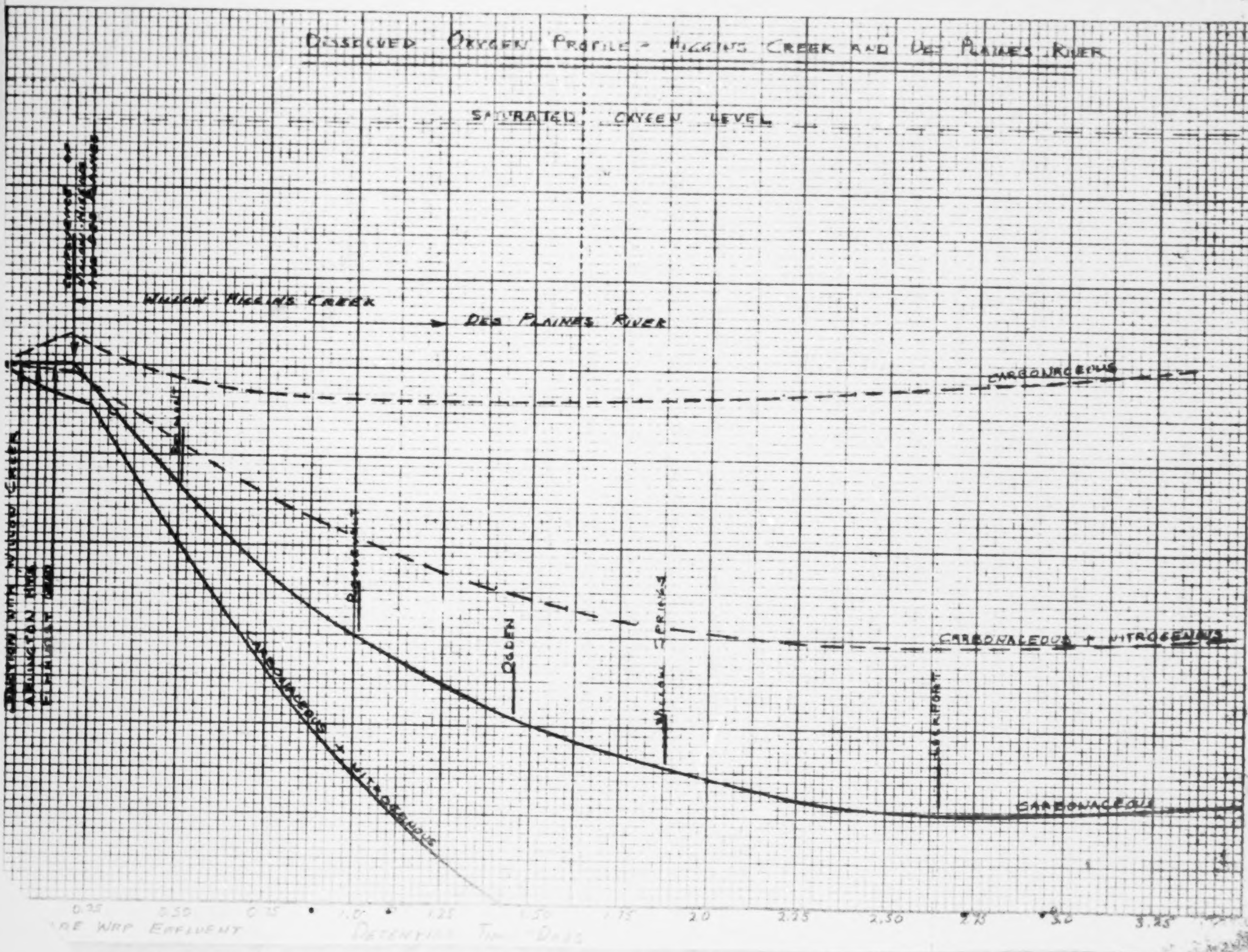
Long term benefits for the waters of Higgins Creek are available so long as the Water Reclamation Plant is properly operated. A constant flow from the WRP with 6 mg/l of dissolved oxygen will provide a swift moving well aerated stream which will support warm water biota where an intermittent sluggish stream presently exists.

Using the modified Streeter-Phelps equation found in IEPA's "Guidelines for Granting Exemptions from Rule 404(c) and 404(f) Effluent Standards" (Draft of 10-23-74) the MSDGC calculated dissolved oxygen concentrations and prepared a Dissolved Oxygen Profile Graph (Figure 5-1) for Higgins Creek and the Des Plaines River assuming the following parameters:

Water Quality of the Des Plaines River for the Year 2000

D.O.	=	6.0 mg/l	
NH_3-N	=	1.5 mg/l	Theoretical concentrations
BOD_{5c}	=	10 mg/l	Resulting from new treatment
BOD_{ultc}	=	25 mg/l	Plants in Lake County
Flow	=	84 MGD	

Two sets of parameters were considered for effluent from the O'Hare WRP for the year 2000.



DISSOLVED OXYGEN PROFILE - HIGGINS CREEK AND DES PLAINES RIVER

The solid lines reflect effluent parameters of:

BOD = 10 mg/l

SS = 12 mg/l

NH_3-N = 2.5 mg/l

The dashed lines reflect effluent parameters of:

BOD = 4 mg/l

SS = 5 mg/l

NH_3-N = 2.5 mg/l

As the Dissolved Oxygen Profile Curve indicates, the effluent of BOD = 4, SS = 5, NH_3-N = 2.5 has the most beneficial effect on the receiving streams.

The effluent standards that will be required for the O'Hare WRP are BOD = 4mg/l, SS = 5mg/l and NH_3-N = 1.5mg/l. Although the D.O. curve was modeled at NH_3-N = 2.5mg/l, Higgins Creek has a 7 day-10 year low flow of zero which requires that the stream standards of 1.5 mg/l of NH_3-N become the effluent standard. This will further decrease the nitrogenous oxygen demand and result in a lesser D.O. sag than indicated by the dashed lines.

The environmental impact of discharging the indicated effluent will be beneficial on Willow-Higgins Creek and the Des Plaines River. Higgins Creek has an almost constant D.O. of 6 mg/l or greater. The Des Plaines River with O'Hare effluent at about 4 mg/l BOD_5 level would have oxygen levels from 3 to 6 mg/l. A possible secondary benefit may be the addition in the future of industrial users of the plant effluent downstream of the plant.

Most of the buildings and structures of the proposed at grade O'Hare Water Reclamation Plant will not extend below the Pleistocene glacial deposits. In the O'Hare Drainage Basin, these deposits are intimately bound with clays and do not act as aquifers. The construction of these buildings and structures will have only a minimal and very local effect on ground water in the overburden soils.

The plant site is underlain with Niagaran dolomitic limestone. Decayed and eroded limestone mixed with clays and some sand are found about 90 feet below the surface. This layer is about 20 feet thick, beneath which is the bedrock limestone having a thickness of about 100 feet. The proposed deep pumping structures will penetrate this bedrock.

The proposed construction may have a very local effect on the water in the dolomite channels. However, nearly all areas adjacent to the plant site are in Des Plaines, Mount Prospect, or Elk Grove, in which municipal water supply is available. The O'Hare Oasis on the Northwest Tollway purchases water from Des Plaines, as will the MSDGC for use in the O'Hare Water Reclamation Plant.

The plant should not create any significant effect on the area ground water because the Niagaran dolomite in the O'Hare Drainage Basin is a poor aquifer and is not used for municipal or industrial use being relatively thin and with few large crevices and solution channels.

2. Water Quantity

The existing system of intercepting sewers in the O'Hare Service Area divert sanitary and combined flows out of the Upper Des Plaines River Drainage Basin to the MSDGC North side Sewage Treatment Plant. (Combined Sewage Overflows discharged to Weller's Creek and Feehanville

Ditch flows into the Des Plaines River. This flow will be appreciably diverted to the WRP Plant for processing). The North side Sewage Treatment Plant discharges its treated effluent to the North Shore Channel of the Chicago River. (See Figure 5-2). This Channel flows into the Chicago River and then into the Main Channel of the Chicago Sanitary and Ship Canal which joins the Des Plaines River below Lockport, Illinois.

The proposed Water Reclamation Plant will discharge its treated flows to Higgins Creek which is Tributary to the Des Plaines River. By constructing the proposed WRP in the O'Hare Service Area, treated sanitary and combined sewage effluent will return some natural flows to the Des Plaines River.

B. Air Quality

The construction of the O'Hare Water Reclamation Plant on Site 1 will have two potentially adverse effects on the air quality of the area. These are the increased possibility of odor and aerosol generation with the potential for health implications. Each of these effects and proposed mitigative measures will be summarized briefly below. A more detailed discussion of odors at the O'Hare WRP can be found in Appendix J. The aerosol issue is examined in Appendix S.

1. Odor Generation

One of the major issues expressed by local residents against the construction of the O'Hare WRP is the potential odor problem.

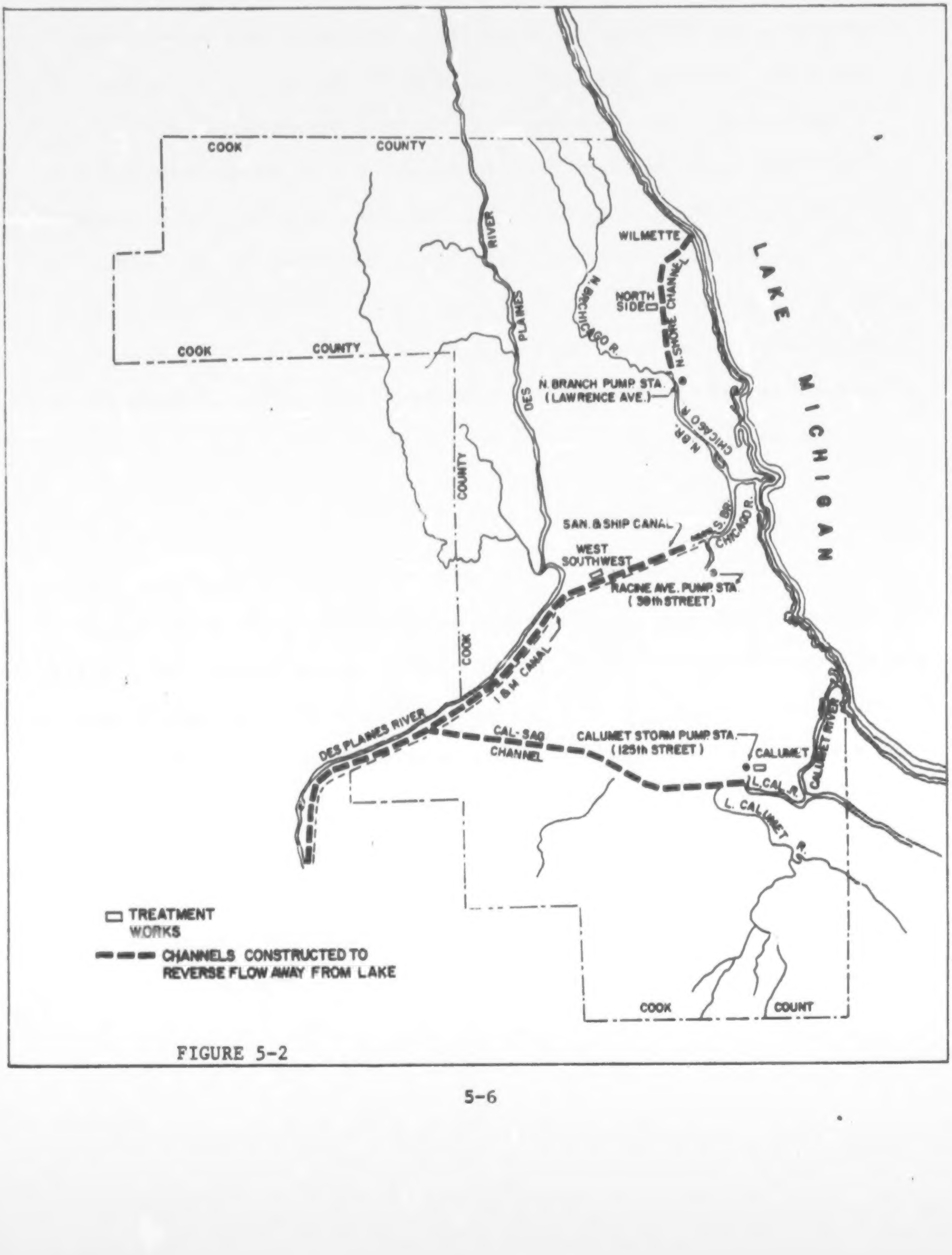

COOK COUNTY
COOK COUNTY
COUNTY
COOK
COOK COUNT
DES PLAINES RIVER
N. BR. CHICAGO R.
WILMETTE
NORTH SIDE
N. SHORE CHANNEL
N. BRANCH PUMP STA. (LAWRENCE AVE.)
N. BR. CHICAGO R.
LAKE MICHIGAN
SAN. & SHIP CANAL
S. BR. CHICAGO R.
WEST SOUTHWEST
RACINE AVE. PUMP STA. (39th STREET)
I & M CANAL
DES PLAINES RIVER
CAL-SAG CHANNEL
CALUMET STORM PUMP STA. (125th STREET)
CALUMET
CALUMET RIVER
L. CAL. R.
L. CALUMET R.
TREATMENT WORKS
CHANNELS CONSTRUCTED TO REVERSE FLOW AWAY FROM LAKE

FIGURE 5-2

The design of the proposed water reclamation plant incorporates several modifications of the conventional wastewater plant to either eliminate an odor source or control potential odor sources. As a result of an economic study, discussed in Chapter 3, sludge will be pumped to the John Egan WRP for treatment and handling. This eliminates the sludge thickening, digestion, and handling facilities which are the principal sources of possible odors.

The major potential sources of odors at the O'Hare facility will be the following locations:

a) Raw sewage pump station wet well

b) Screening and grit storage area

c) Scum handling area

The most effective method of odor control is to prevent the escape of the pollutant to the atmosphere. This is economically accomplished by eliminating the odor at its source or collecting the odor producing substance and treating it prior to its release to the atmosphere. The O'Hare WRP has been provided with several facilities to achieve the above objective.

A pre-chlorination facility has been provided to chlorinate the raw sewage as it enters the treatment processes. Chlorine reacts with the odor-producing substances such as H_2S and other sulfur compounds through oxidation which results in chemical compounds devoid of any unpleasant odor. Chlorination will be accomplished utilizing a commercial sodium hypochlorite solution.

The proposed treatment plant will also contain two packaged ozone generating units. The units are designed to treat exhaust air from the pump station wet well and from the screenings, grit and scum areas. The ozonation system has also been designed so that the ozone concentration in the discharged air will always be zero. Electronic monitoring and control equipment will be installed to detect and control emission quality.

Screenings, grit and scum will be collected in such methods as to prevent the leakage of the noxious gases emanating from them into the atmosphere. They will be separately enclosed in areas which will be temperature controlled to inhibit formation of odors. Exhaust from these areas will be conducted to the ozonation chamber to insure complete deodorization.

At the present time, it is not possible to judge the exact extent of the potential odor problems resulting from the operation of the proposed O'Hare Water Reclamation Plant at Site 1. Given the extensive control and operational measures described above, it cannot be assumed that this plant will experience the odor problems associated with other MSDGC facilities. If significant odor problems result from operation of the proposed plant, it would be possible to take necessary mitigative measures at that time.

2. Aerosol Generation

It should be noted that many previous studies have been made of bacteria, virus, and toxic materials originating in sewage treatment processes. Any one of these studies taken as a separate isolated situation might be interpreted as a potentially alarming problem to someone not directly involved in the utilization of such information. The Public

Health Service and many medical groups have been carefully scrutinizing these individual problems for many years for the purpose of avoiding the development of epidemics or similar catastrophic problems related to the general public. Reliance must be placed in the hands of such Public Health officials to take these individual pieces of scientific information for their respective values and to put them into perspective in terms of public need. For us to attempt to make such an interpretation at this time, is not in the interest of everyone concerned because of the many areas of this type of research which are presently incomplete. We therefore recommend diligence in the pursuit of this missing information but also recommend avoiding conclusions that are not justified based on known facts at this time.

An extensive literature survey was conducted to determine the extent of the present knowledge on aerosol generation and its health implications. A summary of this survey can be found in Appendix S.

It can be seen that there are innumerable factors which control the viability and infection potential of microorganisms commonly found in wastewater aerosols. To conclude that the presence of these aerosols will positively result in a public health hazard is not supported by scientific evidence. Since it is equally unsupportable to reach a conclusion that a potential health hazard does not exist for the residents in close proximity to Site 1, we find that in order to accomplish the intent and purpose of the National Environmental Policy Act mitigative measures are required to adequately suppress aerosol transmission from the aeration tanks. Should evidence become available that these additional facilities are not sufficient, we would require, and MSDGC has indicated its willingness to implement, whatever additional mitigative remedies are necessary.

C. Land

Existing land uses are the WRP and site selection alternatives for the WRP have been discussed in Chapter 3.

The construction of the WRP at site 1 is planned with improvements to Higgins Creek and accommodation for the existing floodplain.

The use of the proposed site is consistent with the Northeastern Illinois Planning Commission's (NIPC) Regional Wastewater Plan, March 1971. The Village of Des Plaines has zoned the site for light industrial development. The area north of Oakton Road, north of the site, is an established single-family residential area with a population of over 8,000 persons.

Ultimate land use forecasts by MSDGC indicate development for the service area of over 65 square miles to be:

Residential and Commercial	29,382 acres
Industrial	7,378 acres
Open Spaces (includes cemeteries)	5,000 acres

Employment and land use forecasts based on recent NIPC population projections (350,000 in the year 2030) have not yet been determined. This project will not substantially induce a change in either existing or proposed land use. The suburban Chicago location, proximity to the airport and location of transportation systems will continue to influence development patterns within the area.

The City of Des Plaines has raised several objections to the location of the WRP at Site 1 for over nine years. Recently, the City requested information from the U.S. Department of Housing & Urban Development (HUD) regarding mortgage insurance, to support its contention that the location of the treatment plant near an existing residential area was unsound environmentally, socially and economically. Several portions of HUD Handbooks, included in the Appendix of this statement, discuss the location of sewage treatment plants in regard to proximity to residential areas. These HUD Guidelines include: HUD Handbook 4135.1, Subdivision Analysis and Procedures for Home Mortgage Insurance, January 1973; HUD Handbook 4140.1, Land Planning Principles for Home Mortgage Insurance, May 1973; HUD Handbook, 4940.3, Minimum Design Standards for Community Severage Systems, November 1972; HUD Valuation Handbook, 4150.1, April, 1973. HUD Guidelines relate to new residential subdivisions, existing and new homes, as well as basic land planning principles which are considered by HUD offices when evaluating applications for home mortgage insurance. In addition, DesPlaines references the Recommended Standards for Sewage Works, 1971 edition of the ten member states of the Great Lakes - Upper Mississippi River Board of State Sanitary Engineers, Chapter 40 of this reference is included in Appendix U.

Our review of applicable HUD regulations and guidelines and discussions with the HUD Chicago Area Office indicates that there are no specific or fixed "isolation distances" which HUD requires between residences and treatment plants; rather, each case is carefully studied for each particular instance (including size of plant and type of treatment).

HUD Handbook 4135.1 (January 1973) states "...the best means of assuring protection against possible odors is to provide adequate spaces between the residential properties and the sewage treatment plant." In the case of Site #1, the width of Oakton Street (the northern boundary of the site) would be the fixed distance from existing MSDGC property lines to the property lines of the residences along Oakton (approximately 100 feet).

A review of the HUD correspondence received by the City of Des Plaines in response to their inquiry, (and summarized in Chapter 6) indicates that HUD has strong concerns, nationwide, regarding mortgage insurance of homes located near sewage treatment plants.

MSDGC should consider all steps to maximize distances between process facilities of the WRP and the surrounding homes. HUD considers the existance of "offensive" conditions in the valuation and marketability of homes to be insured; the possible decrease in value of homes adjacent to the proposed WRP has been considered. While USEPA feels there may be a temporary decrease in market value during the construction of the WRP, any long-term decrease will be negligible. The site is located near O'Hare airport which effects air and noise conditions; and is zoned for light industry. Similar impact on land values should occur whether the site is developed for light industry or for the water reclamation plant. Once constructed and landscaped, the site should be consistent with long range land use objectives of the area.

D. Biology

Construction of the sewage treatment facility will substantially remove and alter the site vegetation. This will result in the loss of most of the site's animal habitat. Increasingly intensive land use has reduced the number of suitable locations for wildlife in this suburban area and reduces the opportunity for migration to another site. This loss would be long term and reversable only with extensive replanting of a large area. Landscaping will help compensate for the loss incurred with facility construction, and to many persons will be more attractive than the present appearance of the site.

The sludge pipeline route passes through rights-of-way along roads and through Forest Preserve right-of-way. Vegetation removed during construction can be replaced to mitigate this adverse effect.

Rerouting and enlarging Higgins Creek and construction of a compensatory flood storage basin will eliminate the natural stream and flood plain configuration and affect the aquatic and flood plain biota. Silt from the whole construction site will also erode into the stream, although this should be greatly reduced by the use of detention ponds. Upon completion of construction, aquatic plants and animals will reinhabit the affected stream reach by migration from upstream, if appropriate habitat is present in the new channel.

The long term effect of this project will benefit water quality and the stream biota by greatly reducing combined sewer overflows and producing a high quality effluent.

E. Environmentally Sensitive Areas

Flood plains at the proposed project site will be greatly altered, with site grading and the construction of a storm retention reservoir.

A portion of the solids pipeline will traverse Forest Preserve land. This right-of-way will have little adverse impact upon park land and these effects will be corrected upon completion of construction, after re-vegetation.

F. Aesthetics

The appearance of the sewage treatment facility should be comparable to other low profile industrial buildings in the O'Hare area and compatible with the site's present industrial zoning. Particular attention must be paid to grading and landscaping of the site following construction, so as to maximize the ground level visual screening on the northern and eastern sides of the site. Gently rolling terrain and the attractive use of trees and shrubs will enhance the visual qualities of the site, and any adverse visual impact of the facility itself will be reduced by this vegetative screen.

Construction will generate noise and dust and temporary site disarray from earth moving and building activities. These adverse effects are short term, ending with the completion of construction. Similar temporary adverse effects will occur with the sludge pipeline installation, with the effects mitigated by restorative vegetation.

The noise during the operation of the facility will not be heard outside of the buildings. The air blower units which are expected to produce decibel levels from 100 to 110 are being isolated in individual sound proof cubicles and provided with noise attenuating devices to protect the operating personnel. Plant service areas and in-plant vehicle parking will be handled in internal courtyards to help reduce noise and visual impact. Extensive provisions have been made in this project for odor control at key odor generating points, as has been discussed previously.

G. Operating Personnel

The greatest hazard faced by the personnel employed at the O'Hare Water Reclamation Plant would be any toxic or explosive gases to which they would be exposed. The main gases in the toxic group include gasoline vapors, carbon dioxide, and hydrogen sulfide.

Gasoline reaching the sewage plant usually comes from garages and industrial plants. Though generally not a serious menace to employee's health, concentration of vapor in the suction chambers of pumping stations can reach dangerous levels. The odor of gasoline is perceptible when the air contains 0.03 percent by volume. A concentration of about 1.0 percent is the most a person can tolerate; concentrations varying from 2.0 to 2.4 percent by volume are fatal.

Decomposition of organic materials produces carbon dioxide. The gas is prevalent in sewers but the concentration rarely exceeds 1.0 to 1.5%. Concentrations of 4 to 6 percent cause considerable discomfort while concentrations of 7 to 10 percent may be fatal.

Hydrogen sulfide is a by-product of sewage and sludge decomposition. Parameters that affect the production of this gas are the sulfate content, the temperature, the age and the strength of the sewage. Hydrogen sulfide acts both as an irritant and an asphyxiant, affecting the respiratory and the central nervous system. Concentrations of 0.01 to 0.015 percent (100 to 150 ppm) cause slight symptoms of discomfort after several hours of exposure. Gas levels of 0.1 to 0.3 by volume (1000 to 3000 ppm) are fatal within a few minutes.

The explosive gases frequently observed at sewage treatment works are hydrogen sulfide, gasoline vapor and methane. Hydrogen sulfide is produced in sludge gas in quantities too small - 0.0 to 0.1 percent to cause an explosion. However, it is undesirable in that it may attack steel with the formation of iron sulfide. When iron sulfide is oxidized in the presence of air, sufficient heat may be formed to cause ignition. The ignition temperature of hydrogen sulfide varies between 346 to 397°C. Flammability limits in air are

43 to 46 percent by volume.

The presence of gasoline in sewage can create a serious explosion hazard primarily in sewers, in the suction wells of pumping stations and in covered grit chambers and sedimentation tanks. Gasoline has an ignition temperature of 300 to 500°C and flammability limits are 1.4 to 6.0 percent by volume in air.

Methane is produced as a result of anaerobic digestion of sewage solids. Since sludge will not be processed at O'Hare WRP, methane will be found only in small amounts in the raw sewage and the sludge pumping station. An air mixture containing 5.0 to 19.0 percent methane or 5.3 to 19.3 percent sludge gas is explosive. The ignition temperature of methane is 645°C.

Due to numerous variables such as pH, temperature, and sewage strength, it is difficult, if not impossible to calculate the concentrations and quantities of toxic and explosive gases which will be generated at O'Hare WRP. However, it may be generally stated that such gases are normally present in extremely small concentrations. Consequently, normal safety measures such as combustible gas detection/alarm and ventilation systems are employed to eliminate any possible dangers arising from these gases.

H. Impacts of Solids Processing

The general purpose and methods of sludge disposal investigated by the MSDGC have been discussed in previous chapters.

Mechanical dewatering of sludge by centrifugation has been chosen for the John E. Egan WRP. The sludge can then be disposed of either in a landfill operation, or hauled as cake and spread on land by manure spreaders.

The installation and use of centrifuges will not result in pollution or turbidity of the receiving waterway. No heated or malodorous gases emitted outside of the building enclosure because odor control facilities are included in the design of the installation. There will be no instances of non-compliance with State or Federal air pollution control regulations. In summary, this process merely concentrates sludge, which is an unavoidable product of sewage treatment, into an easier to handle less voluminous product.

The ultimate disposal of the sludge will be by either landfill or application to land as a fertilizer. The use of sludge as a landfill will not have any detrimental effects on the surrounding area.

The application of stabilized dewatered sludge on land will return nutrients to soils which have been removed by farm crops. Therefore, the addition of dewatered sludge to the soil completes the "natural cycle". When crops are grown, they consume the organic material and the nutrients of the soil during their growth. Man consumes these farm products for his growth and life. Some of these organic materials and nutrients reappear as human or animal wastes. When applied to the soil the organic materials and nutrients, consumed in the production of crops, are returned.

I. Adverse impacts which cannot be avoided should the proposal be implemented, and steps to minimize harm to the environment.

Implementation of the proposed project will have several adverse impacts. Adverse construction impacts include the destruction of site vegetation, temporary decreases in water quality due to runoff from the site, and noise from truck and equipment operation. Although the site will be landscaped after completion of construction, large portions of the natural vegetation (existing grasses, trees and shrubs) will be lost, some of which, however, will be replaced by different species. Temporary holding ponds may need to be constructed to reduce the silt reaching Higgins Creek. Should these prove to be inadequate, additional control measures will be used. Noise will be attenuated by standard muffler and exhaust systems. Construction will also be restricted to regular working hours. The rerouting of Higgins Creek on Site #1 will result in a temporary water quality impact, but this will only be of a short duration. In general, the water quality will be improved because of the increased flow.

Two potential adverse impacts resulting from the operation of the WRP involve the generation of odors and/or aerosols. In order to mitigate any odor problems, the process units most likely to generate odors will be in enclosed structures and the exhaust air treated with ozone. All sludge processing will take place at the John E. Egan WRP, thereby avoiding any odor problems from this source at the O'Hare WRP. While aerosols will be generated at the WRP, we believe that it cannot be demonstrated that any health hazard will result from the transmission of these aerosols. However, since there is also an absence of evidence that a potential health hazard does not exist, we believe a conservative approach is required to mitigate any potential risk. We shall therefore require the MSDGC to design, construct and maintain such additional facilities as necessary to adequately suppress aerosol transmission from the aeration tanks, subject to the approval of IEPA and USEPA including demonstration by MSDGC of effectiveness of aerosol suppression.

J. The relationship between, local short term uses of man's environment and the maintenance and enhancement of long term productivity.

The construction and operation of the proposed water reclamation plant will result in efficient treatment of sewage generated in the O'Hare Service Area and a general improvement in the water quality and reduction in pathogens in Weller's Creek, Feehanville Ditch and the receiving stream-Higgins Creek. By improving the water quality of these streams, the overall water quality of the Des Plaines River should also be enhanced. To accomplish this improvement in surface water quality a committment to energy consumption necessary to operate the proposed facility (flow through the WRP is projected to be 72 MGD by the year 2000) and the removal from the tax roles of approximately 104 acres of land zoned as light industrial will be required. In addition to the immediate benefit of water quality enhancement, the proposed facility will allow the projected growth in the O'Hare service area to occur with sufficient capacity for sewage treatment.

K. Irreversible and irretrievable committments of resources to the proposed action should it be implemented.

Two classes of irreversibility and irretrievability need to be identified in evaluating the committment of resources. Class I is the irreversible and irretrievable decisions that cannot be reversed such as the expenditure of energy. And Class II committments are the decision's to commit resources which are not likely to be retrieved or reversed during the useful life of the project.

Class I committments resulting from the construction of the proposed WRP include the capital costs, energy, and labor necessary to construct and make operational the proposed facility.

Class II committments for the proposed WRD include: the operational requirements of chemicals, energy, mechanical equipment, labor, the use of 104 acres of land zoned as light industrial and the tax loss associated with alternate uses of the site. Higgins Creek will be relocated on the site and channelized where relocation is unnecessary. The habitat for typical urban wildlife such as birds, rabbits, field mice, etc. will be diminished.

L. Recommendations

1. Funding the proposed Water Reclamation Plant on Site 1 is acceptable to USEPA, provided the recommended mitigative measures are implemented.

2. Present knowledge on the potential health hazard from aerosol generation is inconclusive. Consequentially, we believe it is necessary to provide aerosol suppression facilities on the proposed aeration tanks in order to suppress the movement of aerosols from Site 1. We feel this conclusion is justified with any facility configuration on Site 1. Should later evidence demonstrate that these measures are not sufficient, we will require and MSDGC has indicated its willingness to implement, additional, necessary mitigative remedies. In order to further assure the implementation of this finding, it will become a special condition of the grant agreement between USEPA and MSDGC for the proposed Des Plaines - O'Hare WRP.

3. In order to ascertain the effectiveness of the aerosol suppression facilities, we believe it is necessary for MSDGC to demonstrate the level of aerosol reduction to be achieved by the suppression facilities. This requirement will be a condition of any grant made to the MSDGC for the proposed WRP.

4. Our review of the odor control measures proposed by the MSDGC leads us to the conclusion that there will not be any significant odor problems originating for the proposed facility. Should any odor problems

arise, the State of Illinois has the requisite administrative and enforcement ability to affect the resolution of these concerns through facilities of the IEPA, IPCB, and the Illinois Attorney General. The USEPA will provide such assistance as the circumstances may warrant and require.

CHAPTER 6

FEDERAL/STATE AGENCY COMMENTS AND PUBLIC PARTICIPATION

The comments received and our responses will be divided into three sections. They are: 1) March 31, 1975 Public Hearing; 2) written comments of a lengthy nature; 3) shorter comments and letters. In responding to these comments we have referenced any revisions or additions we have made in the text of the EIS.

A. Oral Testimony at Public Hearing

1. Dr. Hutton Slade, City of Des Plaines

"My presentation today will confine itself to the possibility of a health hazard being involved in the location of the O'Hare water reclamation plant, and other aspects of that immediate problem."

"It seems to me that we have two basic factors to consider. One of which is based upon the information that we have about the activities, the biological properties and the pathogenic activities of microorganisms which we might be expected to be transmitted in aerosols and secondly, is it possible that these aerosols will transmit these pathogenic organisms from the O"Hare Plant to the surrounding community. And these are the two basic decisions which we have to rely upon in order to make a final judgment on this case.

"There have been many changes in the activities of pathogenic microorganisms over the years, and I would like to really divide my presentation into three parts. The first has to do with these activities which we are aware of, the second would be the transmission of these organisms, and the third is what possible hazards are we facing? I have listed here the number of characteristics of the historical pattern of pathogenic microorganisms. The activity of these organisms are very much of importance as far as the possibility of transmission goes. And the general pattern today, and the control of pathogenic disease due to bacteria and virus is not one that is becoming easier. In fact, it's becoming more difficult for a number of reasons. We also know that pathogenic microorganisms in some cases have practically disappeared from our lifestyle. For example, scarlet fever, diptheria, we very seldom hear of these diseases today, but yet these organisms are present in the population, and they do arise at odd times, depending upon the situation in which they find themselves. We also know that these organisms are ready and waiting in other characteristics to infect people under situations which may be appropriate for those microorganisms. We also know that we are identifying new organisms from time to time. A new virus present in the intestinal tract of man was just announced last year. The techniques of the laboratory are being perfected to this date that we can expect in the future to isolate more organisms which today we have no means of identification for.

"Another problem in regard to the control of microorganisms, I am emphasizing these points in view of the fact that if transmission is possible, then what are they factors which we have to control such infections when they reach the patient? In the case of antibiotics, microorganisms are becoming more resistant to antibiotics every day. These organisms undergo genetic change. The genetic change which brings about a resistance to antibiotics. Resistance to penicillin by staphylococci in our hospitals today is very much of an important problem. Some of the organisms which we find in the intestinal tract of man such as Salmonella, Shigella, Proteus, Pseudomonas, these organisms have been known to develop genetic resistance to antibiotics and to pass these resistances from one cell to the next, and to build up a maximum of twelve antibiotic resistances in a single bacterial cell. If these organisms are the ones that are going to be transmitted in aerosols, then we are going to have important problems to consider. In some cases the activity in regard to resistance to antibiotics has increased 25 times, and maybe some of you have read recently that meningococcidal meningitis, which used to be always susceptible to sulfadiazine, is now resistant to this drug.

"Another factor which we hear mentioned in consideration of aerosol problems by various people in the field is the subject of virulence. Virulence is a term which relates the activity of an organism to produce disease. Virulence does not indicate in itself the extent of virulence. An organism can be low in virulence an organism can be high in virulence. But as organisms are passed through animals or through people, they build up increased virulence. And so the possibility of these types of organisms being transmitted in aerosols is something also that we must keep in mind. A continued passage through the intestinal tract of man in attempts to increase the virulence of these organisms, the ones which we do consider and which we do know to occur in the intestinal tract. Most of the data which is in the literature relates to Escherichecoli as an indicator of pollution. This has been the organism which has been considered for this type of assay for many many years, but actually, I think that we are looking at the wrong organisms. Because E. coli, even though it is a potential pathogen, is not very frequently found in human disease. We need in the future to examine the occurrence of streptococceae and staphylococci and Proteus and Pseudomonas as possible indicators of transmissions of infection when we are considering aerosols from the type of treatment plant which is proposed for construction close by here.

"How many bacteria are viruses or viruses are needed to cause an infection? This is a subject which is practically unknown.

We have no information to actually rely on as to the number of particles of virus or the number of bacterial cells which can cause disease. After all, we don't have very many volunteers for this type of work, so we understand it is readily understood that we do not have very much information, and if we did have the information, it would not apply to all of us. It would only apply to the so called normal individual, and that would probably not include all of us, because we all have different nutritional states and resistance to infection, and other conditions which are responsible for the establishment of an infection.

"Another important point which I had in my notes for this presentation this afternoon was the subject of an article in this morning's Tribune by the science writer who is attending a congress, a cancer congress in California. He wrote about a report given yesterday of a friend of mine and he spoke about the fact that viruses can remain dormant in the cells of humans for many years, and at some time later they are triggered to develop into a full blown type of infection. And this is one of the important points we have to consider in aerosol transmission, because we are talking about the transmissions of small numbers of organisms, but the important point is if these virus particles can hide away in ourselves, at various times, and later at some time in the future, develop into an active infection, perhaps that bacteria could likewise do a similar thing. So this is a very important thing, point I believe in this type of consideration for transmission by aerosol. I brought along some slides with me, but I don't think it is worthwhile showing them. I had listed on these slides some of the important pathogenic organisms which occur in man, in the intestinal tract, and which, of course, are then distributed into the feces and may eventually reach the aerosol droplets which are involved in transmission. It is known from the literature in a limited number of studies and the data certainly is not sufficiently extensive as we would like, but it has been proven that under certain conditions of wind velocity, temperature, humidity and that sort of, with those different variables, the viable bacteria have been isolated as far as 8/10ths of a mile away from a sewage treatment plant. This was the longest distance, actually determined by these workers at that time. Other studies have proven that aerosols containing pathogenic microorganisms have been isolated at distances of 100, 200, 300 feet. These organisms in these particles, in these aerosol droplets, show different rates of die, of decay, or loss of viability, depending upon certain characteristics of environment at that time. But it is apparent that these organisms can be transmitted in these aerosals for a limited distances.

"Viruses are a very important aspect of the problem which we are considering here in addition to bacterial, because many of our viruses are present in the intestinal tract. Viruses which we know today to cause intestinal upsets, respiratory problems, and these other different diseases related to these conditions which we habitually find in our communities in the winter time. Virus transmission by aerosols has been accomplished in the lab very readily. The number of virus particles required to produce an infection, as I said earlier, is somewhat very poorly defined, and really is not considered to be - - I cannot give you, really, a figure as to the number of virus particles which would be responsible for the infection because all the laboratory work has been done with animals, and it is very risky to relate such data from animals to human beings. Now the average human will inhale about ten cubic meters of air in 24 hours at rest. And with exercise, this can increase up to 150 cubic meters. And if we take the figure somewhere in between say 50 cubic meters of air a day of exercise and a day of rest, we can take from the data which I have cited, a 10,000 count of viable bacteria per cubic meter, at 100 foot, or 100 feet from a sewage treatment plant. And on other data, based on other data, we could some up with a figure of a half a million viable aerobic bacteria inhaled in a 24 hour day, at a rate of 50 cubic meters a day. Now the drinking water standards which were set many years ago, rather imperilly, I suspect, limited the number of E. coli, per litre of water to ten E. coli cells. Now if we assume that we ingest say two litres, which is a low figure I would suspect, maybe three could be better, we come up with 30 or 20 E. coli cells per consumption per person today - - per day. And the ordinance of the City of Des Plaines, their standards that they are requesting are two cells E. coli cells per cubic meter of air entering the village or the city limits.

"Just a few words about EPA questionnaires, the EPA requested the opinion of a number of persons as to the possibility of a health hazard in respect to this proposed plant. Out of the eight opinions, five said yes, there is a potential health hazard. Two said there was too little data to make a conclusion, and one said that there have been no outbreaks with workers associated with such treatment plants, and, therefore, they felt that there was no possiblity of health hazards. The EPA includes in their impact statement that the presence of aerosols will positively result in a public health hazard is not supported by scientific evidence. Conversely, it has not been proven that there is no possibility that such aerosols have any public health aspect. In respect, in consideration of their statement, they do not say yes or they do not say no as to a public health hazard. The Argonne study has given, as far as the O'Hare Airport operation is concerned, has given figures which were obtained in 1972 on the carbon dioxide, the total hydrocarbons and nitrous oxides in the particulate matter in the atmosphere, at O'Hare Airport. The nitrous oxides exceeds the accepted standards, the National Ambient Air Quality Standards by two or three time depending upon the location at the plant. Now these hydrocarbons and these nitrous oxides are substances which are going to irritate tissues of the human body, in the lung, certainly, they will cause inflammation of the cell. They will cause leakage of cell fluids, they will promote the adherance of a pathogenic bacteria to these cells. The adherance of the bacteria and their growth will be promoted by cell tissue fluid, which may come from the inflamed tissue, and the penetration of the viruses into such cells would certainly be increased - - the possibility of penetration would be increased. How do we visualize the public health hazard in this situation? It is not one, this type of transmission, aerosol transmission of bacteria and viruses is not one that possibly or most likely would result in a large number of people being involved in any one time. But I visualize it as a consistent low level of disease which would be related to the health of the person, the various individuals in the community. These which are in ill health are certainly most likely to be the ones who would be effected by such aerosol transmission. The aged and the affirmed, the people with respiratory weaknesses would certainly be most likely to become infected by this aerosol transmission. The MSD and their impact statements quotes from the Committee on Infectious Diseases of the American Association of Pediatrics in 1974. The ingestion of Picornaviruses very seldom results in anything more serious than transient infection of the elementary tract. Well that is just the point that I am making here. Nothing more serious than transient infection of the elementary tract, but this is the important point, because this transient infection may be transient in the state of four or five days. And during this time, the individual is laid up, unable to work, infection may be spread to other members of the family, and we have our normal winter viral infections which we find practically every winter in our communities. The MSD also cites a textbook in microbiology to the effect that only one or two percent of those exposed and infected to polio virus developed the disease. Well, that is a pretty high rate of infection, one or two percent. Now we don't bother with polio any more because we have vacine to take care of it. But this is no reason why we should not remove the hazards. One or two percent infection is a good infection rate, a high, rather high infection rate, and if this can be prevented, it seems to me that we should make very effort to do so.

"It has also been suggested, by those who do not consider a very strong possibility of aerosol transmission, that we have developed immunity in the course of our lives, and being exposed to microorganism in the air we have developed immunity to various diseases, and we do not really have to consider any aerosol transmission as a serious problem. I suggest that this is not really an immunity which is sufficient to protect us. If so, we would have had immunity to polio much more so than anyone - - none of us ever had an immunity to polio, and in order to become immune, the polio vacine in very large numbers, was employed in order to develop a high level of antibody, which could counteract the effect of any microorganisms, any virus particles which may enter the body. A high level of circulating antibodies is essential for immunity to be developed, and this I do not think would develop sufficiently over a long period of time with exposure to few organisms, so that we would be protected against the possibility of infection by aerosol transmission. Sub-clinical infections can be inspected, I believe, in this type of aerosol transmission, and is the one which I feel is most likely to be the one which we would consider.

"In conclusion, then, although we recognize that the evidence which shows a relation between aerosol transmission of bacteria and viruses in human disease is limited in nature. It seems to me that now is the time to apply procedures so that no transmission can occur in the future. A potential hazard does exist. The present plan for the O'Hare Water Reclamation Plant cannot assure that this potential hazard will not become a problem in the future. Why should we wait for a hazard to develop before we act? All the emissions from the plant should be treated so that they are rendered harmless for those who inhale them.

Response: Dr. Slade raised many good points in his presentation and we are generally in agreement. He pointed out that there is still no evidence in the scientific literature that would indicate the likelihood of a public health problem due to aerosols generated from a sewage treatment plant. We are in agreement with this and the fact that a possible health hazard could exist due to the operation of the proposed WRP. Consequently, we have made a decision to require MSDGC to provide adequate aerosol suppression facilities to minimize the movement of aerosols from Site 1. This decision is discussed in more detail in Chapter 3 and 5.

2. Richard F. Ward
City of Des Plaines

Slide #1 (City of Des Plaines Testimony by R. F. Ward)

I would like to direct my initial comments to our audience this afternoon (evening). My previous slide presentations have been very broad in scope and contained many aerial views of alternate sites and other sewage treatment plants. I would then follow up with a very detailed written input containing the volumes of information we felt should be considered in any decision. On March 28, 1974 we submitted a 250 page report. After the December public hearing, I updated my March report on December 27, 1974 and the resultant document contained some 400 pages. The vast majority of our questions and comments have never been answered by either the MSD or any reviewing agency and I will incorporate our previous inputs into our written comments prior to the April 21, 1975 deadline. During this presentation, I will concentrate on 4 topics:

F. Cost-effective
T1. Site
T2. Health
T3. Isolation

Although we disagree with their conclusions, the last three topics have at least been addressed in the draft Environmental Impact Statement. The first topic of a cost-effective system has been avoided by the USEPA.

The first topic I would like to refer to as the forest and the remaining topics as tree 1, tree 2 and tree 3. And I must offer the observation that the reviewing agencies have been examining the trees and have overlooked the forest. As a further word of explanation to the audience, there are very few interesting photographs in this presentation and many of the details I will offer may be difficult to place in context but the hearing officer and the USEPA staff will know exactly what I mean. We will be examining the adequacy of their draft of the Environmental Impact Statement. We will be detailing omissions, contradictions, unsubstantiated and incorrect statements in this draft.

Slide #2 (Aug. 72 and Nov. 73 TARP)

The Federal Regulations require that only the most cost-effective and environmentally sound projects be funded. Here we see the August, 1972 and November, 1973 Tunnel and Reservoir Plan that was the result of 20 years of engineering research and the study of many agencies of local and state government. This plan has been subjected to a 58% change during the past several months that the MSD has described as quote "minor variations" in their January, 1975 Facility Plan. The dashed line under O'Hare Airport is described as a "possible interconnection" between the Des Plaines River Tunnel and the Northwest Tunnel.

Slide #3 (Cross-section of TARP)

Here in this cross-section view, we can see the slope of the tunnel that would allow gravity flow down to the main McCook-Summit reservoir. Again the interconnection is shown as a dashed segment. Note the comparatively small O'Hare reservoir that is equal to only 3% of the total retention capacity. During several presentations and written communications during the last 18 months, Mr. Donald Dvorak and I have each concluded that this connection was the most cost-effective and could save the taxpayers of this Nation over $100 million. The USEPA has acknowledged not considering this option in their draft Impact Statement. Unfortunately their own regulations require the USEPA to analyze this option that would eliminate the need for the O'Hare plant. But it obviously should have been done before examining the environmental impact of the O'Hare Plant.

Slide #4 (Nov. 73, TARP EIS, p.35)

Here we see that the Tunnel and Reservoir Plan evolved from over 55 plans developed during the past 20 years. Please note that it was a combination of alternatives G, H, J and S. Also please note the extremely important statement concerning the "possible O'Hare-Northwest connection. This would allow the entire system to operate as a unit with considerable advantages for storms having great variable areal distribution over the 375 square mile service area." I submit that one reason this connection was eliminated from the current plan is because the MSD could not justify the expenditure of over $150 million for the O'Hare plant and reservoir if this connection was retained in the plans. The MSD contends that building the plant locally would return the purified water to our local streams and help recharge the aquifier and increase the recreational advantage of Higgins Creek. A geologist has informed me that because of 2 impervious layers of rock and clay only a few percent of the water would get down to the depth of our municipal wells and regarding the recreation claim, we all realize that Higgins Creek flows through primarily industrial and airport land and would be of little use to our citizens for its recreational value.

Slide #5 (Nov. 73 TARP EA, Table 3)

Here we see that of the 4 alternatives that formed the original Tunnel and Reservoir Plan, only alternative "S" contained the O'Hare reservoir and therefore the other three had to contain the interconnection.

Slide #6 (Ward letter to MSD, 10-7-74, p. 1)

In this letter to the MSD last October, we are reminding them of their obligation to answer our March 28, 1974 questions. As I mentioned earlier, the MSD just avoided addressing the vast majority of our comments and questions. And the USEPA gave the MSD their blessing and likewise avoided many of our comments and questions in their current draft. In the last paragraph, we again offer the opinion that it would be more cost-effective to make the "connection" and eliminate the O'Hare plant and reservoir.

Slide #7 (3/75 draft EIS p. 1-10)

In their rough draft of the Environmental Impact Statement, the USEPA also anticipated the MSD's "cost-effective calculations". But the USEPA had to edit out any reference to the "cost-effective calculations" in this published draft because the MSD failed to furnish them and the USEPA apparently could not or just did not make a cost-effective analysis themselves. In this instance the considerable political power of the MSD may have been influential in the USEPA not following their own regulations by overlooking the requirement for the cost-effective analysis.

Slide #8 (3/75 draft EIS p.c-3)

The USEPA must have reluctantly accepted this MSD reference to their planning history as the cost-effective justification for creating the O'Hare plant and reservoir. It is absolutely amazing that the recitation of a history is allowed to be substituted for a factual cost evaluation. We must severely critize the USEPA for allowing their regulations to be broken by the MSD.

Slide #9 (3/75 draft EIS pp. 3-6 and 2-29)

While we are on this cost-effective topic, let us look at the size of the proposed O'Hare plant that the USEPA mentions they are still studying. It should be apparent to a casual observer that before you examine the trees, you must first find the forest. The USEPA somehow found themselves in the middle of this forest and admit that they are not quite sure how much sewage this forest will produce and how this relates to other service areas. Here we see a very vivid discrepancy on 2 separate pages of the draft EIS. On page 2-29 the USEPA is citing the NIPC employment forecasts will be up 37% by the year 2000. And on page 3-6 the USEPA is citing the MSD forecast of industrial acres will increase by 265% by the year 2000! I have inserted the NIPC population projections that have been accepted by both Illinois and reluctantly by the MSD that show the population will increase 35% by the year 2000. Incidentally the proposed O'Hare plant has been designed by the MSD using their own population projections of 439,000 in the year 2000 which is up 98% compared to the NIPC increase of 35%. It is amazing what the MSD can get away with!

Slide #10 (MSD Fac. Plan Overview Jan. '75 app F pp.5-8)

Here we see in the O'Hare service area the discrepancy in population projections of 300,000 versus 439,000 times 150 gallon per day per capita results in a 21 million gallon per day discrepancy in the design year 2000. Also we see similar discrepancies in adjacent service areas that have historically handled the sewage since Des Plaines was annexed to the district in 1921. Salt Creek will have an excess design capacity of 23 MGD. Northside will have an excess design capacity of 20 MGD and Stickney an excess design capacity of 28 MGD. The estimated 40 MGD from our 300,000 people in the year 2000 can very easily be handled with just the excess design capacity of Salt Creek, Northside and Stickney.

Slide #11 (3/75 draft EIS p. 3-2)

While we are on the subject of erroneous assumptions leading to inaccurate design capacities, this is an example of one of the factors that the USEPA either developed themselves or just certified someone elses work as correct. This set of data lead them to the conclusion that the rate of per capita water consumption is increasing in the O'Hare service area 2.667 gallons per day each year. Note in their search for accuracy, they give the conclusion in four significant figures. But now let's see where this very accurate conclusion came from. Note that the people in Arlington Heights each used 69 gallon per day in 1966. And that by 1970 they were each using 98 gallon very day, an increase of 42%. That's quite a change in life style. In the meantime the people in Elk Grove were each using 148 gallons per day in 1966 where apparently the lack of rain required more lawn watering than further north in Arlington Heights. But by 1970 the Elk Grove consumption had dropped 12% to 131 gallonsper day. Have I made my point? Apparently someone got too close to the trees again and mixed population and water usage figures from different sources. I offer the opinion that the USEPA staff was being rushed to meet the June 30, 1975 deadline and they were receiving little help from the inadequate MSD Facility Plan and Environmental Assessment.

Slide #12 (3/75 draft EIS p. 2-18)

Here we are told by the USEPA that the capacity of the interceptor to the Northside plant is 40 MGD and that we are approaching that limit. I concur that the present flow from "the Basin" is approaching that limit. It makes no mention that about 10 MGD flow into the O'Hare Basin will soon be directed to the new Salt Creek plant. We will refer to the 10 and 40 a little later.

Slide #13 (Jan. 1968 Warren-Van Praag report on Northeast Area)

Rather than the 40 MGD capacity we saw in the last slide, in January of 1968 the sewer capacity of the Rand interceptor was 49.7 MGD. I asked for more recent data in my 12/27/74 written testimony but the MSD again failed to respond.

Slide #14 ("Northside Service Area" graph Ward 2/19/75)

For simplification in this presentation we will only talk about the red design capacity line and the blue and green flow lines and will not discuss the dashed lines. The USEPA received a copy of this graph attached to my letter dated February 22, 1975. However, this was after the writing of the draft was concluded. We can see that with the planned expansion of the Northside Plant in Skokie from 332 MGD to 436 MGD, there will be sufficient capacity available to handle the flows without creating the O'Hare area. This excess capacity will be sufficient to dewater the flow equalization tunnel in 52 hours. The addition of the O'Hare plant would only lower this dewatering time to 42 hours, which is certainly not a cost-effective justification for building the $95 million O'Hare plant.

Slide #15 (Cover of EPA Tech. Transfer on Flow Equalization)

The old concept of sizing a sewage treatment plant one and one-half times the average dry weather flow is no longer necessary with the concept of flow equalization. This is simply including a retention structure in the collection system to store the flows during peak periods and then feed the stored flows to the plant during off peak hours. This results in a more efficient constant flow through the plant and eliminates some of the overbuilding of plant capacity that has taken place in the past. And the Northside Plant will have this capability with the 600 acre-foot storage capacity of the Wilmette to Addison Tunnel segment.

Slide #16 (3/75 draft EIS p. 3-43)

Now after the USEPA had reviewed the same information that I have just partially shown, they came to the conclusion that "the reported loadings and assumptions are not totally consistant with the final design criteria". In their merciful way this is certainly an understatement!

SITE

Slide #17 (USEPA questions to MSD, 12-23-74 p. 1)

Now let's turn to the next topic of the reasonableness of the site selected by the MSD for the O'Hare plant. Here we see the USEPA stating that the MSD site selection focused on economic concerns. And the USEPA is asking for an environmental evaluation utilizing a matrix of impacts on each of the sites considered.

Slide #18 (MSD 1-20-75 Matrix)

One month later the USEPA received this very simple matrix that, with the exception of the +1's for water, makes no sense whatsoever. Because the airport was not zoned industrial, the MSD gave that site a -1 for a negative visual impact. And they intentionally misinterpreted the flood potential question and related it to the USEPA reference to the reservoir site. But for this presentation, I will concentrate on the air pollution impact of -1 on sites 4 and 5.

Slide #19 (MSD 1-20-75 MAP)

I have outlined the population areas on the MSD's map in red. Note sites 4 and 5. Site 4 is the mobile home area that was one of MSD's unfeasible alternatives in 1966. Obviously if that site was selected -- and it should not be selected -- there would be no people left in that area. Now look at site 5 just southwest of Oakton and Busse. No one lives within a half mile of this site.

Slide #20 (MSD 1-20-75, para. B, Air Quality)

Here in the explanation of why 4 and 5 were downgraded from an air quality standpoint, we see that sites 1, 2, 3 and 6 are all relatively isolated from residential development. For sites 1 and 3 that is ridiculous. The MSD says that site 4 adjoins a trailer park when we have just seen that site 4 is the trailer park. And they claim that site 5 is surrounded by residential houses.

Slide #21 (USEPA 1-29-75 follow-up para 4a)

The USEPA quickly detected this very bold error by the MSD and in kind words told the MSD "it is unclear why sites 4 and 5 would have a negative impact on air quality -- while the same reasoning would not be true of site 1 which is directly south of a residential area."

Slide #22 (MSD follow-up answer 2-3-75)

A few days later MSD's follow-up answer arrived in the USEPA offices and just repeated the "adjacent to" and "surrounded by" statements again. But the MSD was compelled to say something about the USEPA question so they replied, "site 1, though adjacent to a residential area, appears to be environmentally more favorable because the effect of negative impact would be experienced by fewer number of people." That is totally amazing because 8,000 people live within the 1 square mile north of site 1 and 3,000 people live within the square mile south of site 1. Please note the comment on the USEPA file copy -- just the simple "What?". And the USEPA is allowing the MSD to get away with these bold responses. Does the USEPA really believe that a federal judge will rule that these responses are acceptable elements to an adequate Environmental Impact Statement? Will the Region V management be proud of a work product that contains these inputs when they are brought to the attention of the Council on Environmental Quality? We predict that the answer will be "no" in both instances.

Slide #23 (Council on Environmental Quality to Ward 3-21-74)

Anticipating possible local political problems or over-emphasis on funding deadlines, we established contact over a year ago with the Executive Office of the President -- his Council on Environmental Quality. We will use this established line of communication as the need arises.

Slide #24 (3/75 draft EIS p. 3-15)

The USEPA's examination of alternative sites was so cursory that even the number of acres are not given. Here they mention that the site next to Flick-Reedy is in DuPage County where the MSD does not have the power of eminent domain.

Slide #25 (aerial of Ward's sites 2 and 3)

Here we see this ideal location next to Flick-Reedy which is marked site 3 on this aerial view. It is on a receiving stream highlighted in yellow and remote from any residential area.

Slide #26 (3/75 draft EIS p. 3-17)

In a very quick fashion on this page, the USEPA eliminated 7 of the 9 sites that were under consideration. All sites not owned by the MSD were eliminated apparently in an effort to meet the June 30, 1975 funding deadline for this fiscal year. But look at the reasons -- sites 5 and 9 were eliminated because of one building on a portion of each site -- one built last year and the other under construction. Site 7 is in the clear zone of runway 9L -- did the airport state that this would be a problem? Sites 3 and 8 were eliminated because of unknown availability and undetermined acceptance. Did the USEPA staff attempt to make a phone call or write a letter? Did the USEPA Regional management think of exercising their leadership potential in pursuing these obviously more environmentally sound sites? Why did the citizens of this Nation create an environmental protection agency?

As one final note on this slide, that site 8 is vacant and for sale so the lack of the power of eminent domain is no factor at this site next to Flick-Reedy.

Slide #27 (3/75 draft EIS p. 3-20)

Here is the USEPA's attempt to relate the 2 MSD owned sites to the residential areas. Even without considering the relative magnitudes of the populations in these residential areas, the USEPA should have concluded that site 2 was approximately 900 feet more distant than site 1 when measured from the center of the aeration tanks. I have added the relative population densities as a frame of reference. There is a difference in the relative magnitude of 150 versus 10,000.

Slide #28 (3/75 draft EIS, p. 3-21)

Based on the USEPA conclusions that there will be no health or odor problems, they concluded that therefore there is no advantage on the basis of distances from residences. Let me make this point very clear -- this entire site selection process is totally unacceptable to the people of this community that I represent.

Slide #29 (3/75 draft EIS p. 5-32)

The USEPA concluded that #1) Funding the proposed Water Reclamation Plant on site 1 is acceptable to the USEPA. Again let me emphasize that their very shallow method of site evaluation is not acceptable to this community.

Slide #30 (Ency. Brit. excerpts on "aesthetics")

I have never criticized a method or an alternative without offering another method or alternative for consideration. Here we see our Nation's guarantee that assures for all Americans esthetically pleasing surroundings. Let me emphasize the word assure. Encyclopaedia Britannica states that "in the broadest sense aesthetic value is taken as intrinsic pleasure or the liking of a thing for itself". "Aesthetics is the study of immediate pleasure". The immediate response of 9 out of 10 people is that they would rather not live next to a sewage plant.

Slide #31 (Ward's 2/13/75 site selection matrix)

Here we offered a constructive alternative method of evaluating sites for a sewage plant. It considers the threee primary factors in site selection: aesthetically remote, emission control and cost. It also gives an opportunity for assigning weights to each factor. As we can see comparing the 3 uncovered sites that are highlighted, the Oakton-Elmhurst site rated 24 points, the site southwest of the Tollway and Elmhurst, 34 points and the airport site, 44 points. I asked our Regional Administrator, Mr. Mayo to have his staff evaluate this site selection method. It was apparently received after their draft was already written so we will expect it to be reviewed in the final EIS next month.

Slide #32 (1000' distances from sites 1 and 2)

Here we see a more indepth evaluation of the relationship between sites 1 and 2 taking into account the relative magnitude of each of the residential areas. These are 1000 foot circles from the center of the aeration tank area at each site. Note that the 2000 foot green circle does not touch any of the 4 residential areas.

Slide #33 (graph of population affected 3/12/75)

Again note on this graph that the yellow area reflects what we saw on the last slide that no population is affected by the aeration tanks on site 2 until after 2000 feet. And we can see that by this distance, already 1200 people are affected by site 1. And the relative isolation advantage of site 2 continues beyond the 5000 foot limit of this graph.

Slide #34 (IEPA letter of 2-10-75 para. 2)

This letter from the Illinois Environmental Protection Agency to the USEPA gives their conclusions: "We share with you and your staff considerable reservations about the District's choice of a site for the facility, in view of the proximity of the site to an established residential neighborhood. We will approve the site currently proposed by the District only if the following conditions are agreed to and incorporated into the Facilities Plan for the area:

a) Maximum visual screening.

b) Those process units that are sources of odor during periods of process upset, or which may produce aerosols capable of transmitting pathogens must be covered, and suitable additional controls provided to eliminate these potential hazards to the nearby residential areas."

"If in the alternative the District wished to pursue relocation of the facility to a site further removed from permanent residential areas -- for example the site presently owned by the District which lies southwest of the proposed site on the opposite side of the Northwest Tollway, it is conceivable that these requirements can be relaxed somewhat, and perhaps eliminated."

I personally agree with these options and recommend to the people that I represent that they, too, should support these options with the following reservations:

1) that it is still not the most cost-effective option to create the O'Hare Service Area now that the tunnel system is receiving approval.

and 2) that before the covered tanks and air purification systems at Oakton-Elmhurst are certified -- some agency positively determine the current cause of the eye-irritation problems at the covered Clavey Road plant.

HEALTH

Slide #35 (3/75 draft EIS p. 5-19)

Now let's turn to the second tree in the forest -- the topic of health. We agree with the USEPA conclusion that "the fact that aerosols are generated cannot be disputed".

Slide #36 (3/75 draft EIS p. 5-23)

To conclude that the presence of these aerosols will positively result in a public health hazard is not supported by scientific evidence. Conversely, it has not been proven that there is no possibility that such aerosols have any public health impact. Let's stop there and ask if this constitutes the assurance required in the National Environmental Policy Act of 1969. The USEPA have not and cannot assure a healthful environment to our people adjacent to an uncovered sewage plant. Let's continue -- "There is simply no epidemiological data available, of which we are aware, that would indicate any public health impacts whatsoever." That is a very positive statement -- unfortunately as we will see in the next slide it is not true.

Slide #37 (Ward's 12-27-74 Comments para. 3.11B)

Based on the advice of Dr. William Budge of the Illinois Department of Publich Health that the eye is a true indicator of air pollution, Mrs. Gail Winston and Dr. Mark Levine designed the study. Dr. Gordon Hilton and Dr. Leonard Sornat also were consulted regarding the study. As we can see, the eye-related problem occured from 6.8 to 9 times more frequently next to the Clavey sewage plant. Statistically this was a near exhaustive survey with the chance for error determined to be 1 in 1 million. This study was given to the USEPA and they have failed to even mention it in the draft EIS even though it was discussed at their January 28, 1975 Air Strategy Meeting.

Slide #38 (3/75 draft EIS p. 2-26)

The USEPA concluded that the air quality in the vicinity of the project sites is already severely degraded because of the proximity to O'Hare airport. Several scientists including Dr. Carnow and Dr. Rogoff have concluded that the presence of chemical air pollution lowers the resistance of an individual to infection by airborne viruses and bacteria transmitted in the aerosols. The USEPA presented no discussion or conclusions on this subject.

Slide #39 (3/75 draft EIS p. 5-15)

The Public Health Service and many medical groups have been carefully scrutinizing these individual problems for years but they have conducted no studies to get an answer to the question.

Slide #40 (IEPA 2-10-75 para. 3)

In regard to the public health risks the Illinois Environmental Protection Agency concluded that: "In our view, the evidence that such risks are significant is very weak, but neither can it be stated with total confidence that such risks are inconsequentially small". They further stated that "Hopefully, the Environmental Impact Statements will shed additional light but we are not optimistic that this will be the case". The EIS gave no additional information only USEPA regional opinions, so we can expect that the certification conditions of covering or relocating will not change.

Slide #41 (3/75 draft EIS p. 5-21)

Here is another statement that is contrary to assuring our citizens a healthful environment: Even more uncertain are the processes of the infection mechanism once contaminated aerosols are inhaled by humans. Because little is known of the minimum infecting dose of most organisms, little can be concluded from a public health standpoint. A range of from one to many thousands of infectious organisms may be required to produce a disease state. Let me repeat the USEPA statement that little can be concluded.

Slide #42 (3/75 draft EIS p. 5-32)

However, here we see the second USEPA conclusion that "present knowledge on the potential health hazard of aerosol generation indicates that covering of the proposed Water Reclamation Plant is unnecessary." We simply cannot afford to accept such an unsubstantiated conclusion and rely on the MSD promise to correct any demonstrated problem.

Slide #43 (3/75 draft EIS p. 5-15)

We certainly cannot rely on the MSD to correct future problems if they do not even acknowledge current problems. Here the USEPA is stating that it cannot be assumed that this plant will experience the odor problems associated with other MSD facilities. The MSD flatly refuses to admit that they cause odor problems so this leaves us with no future assurance whatsoever for either the potential aerosol or the odor problems.

Slide #44 (3/75 draft EIS p. 5-14)

USEPA observes that odor problems are usually associated with over-loading, by-passing or indifferent maintenance and that all the plants cited at the last public hearing have experienced at least one of the above difficulties. Ok, but it cannot logically be concluded that even if the MSD could fix those three items, we would have an odor-free plant. And historically, they have not been able to fix them in their 86 years of existence. Also, there are other recognized sources of odors.

Slide #45 (Tech-Transfer, Upgrading STP, p. 9-11)

The USEPA research staff indicates that "It is also possible that a properly sized air supply system can strip odorous gases from septic wastewater". It should be expected that under certain conditions the delayed arrival of wastewater from the 66 square mile service area will result in septic conditions where the gases will be stripped off in the first stage aeration immediately after the grit chamber.

Slide #46 (Metcalf and Eddy - Wastewater Engineering p. 478)

In their very accepted book on Wastewater Engineering, Metcalf and Eddy concur that odors can occur in the air emanating from aeration tanks.

Slide #47 (3/75 draft EIS p. 3-60)

Sometimes the USEPA makes very positive statements that are quickly proven incorrect. Here the USEPA is stating that the practice of land application of sewage solids does not contribute to any environmental pollution -- either air or water. Within days after I received their draft EIS, the local newspaper reported that the Illinois Environmental Protection Agency ordered the MSD to stop shipping its treated sewage to Fulton County because the stuff smells so bad. We admit that even Des Plaines makes mistakes.

Slide #48 (3/75 draft EIS p. ii)

But we will not allow this mistake to be made in Des Plaines -- the USEPA conclusion that occasional odors may be detected from the proposed Wastewater Reclamation Plant. For many, many years our local ordinances have not allowed odors beyond the threshold level and we have no intention of lowering our standards for the sanitary district.

ISOLATION

Slide #49 (Ward to Hirt - USEPA 2-13-75)

Now let's shift to the last topic of isolation distances. I initially informed the USEPA on January 23, 1975 of the U. S. Dept. of Housing and Urban Development guidelines for not insuring mortgages on residences generally within 500 feet of sewage treatment plants. I followed-up the January 23rd notification with this letter on February 13, 1975 that called the USEPA's attention to several recent HUD decisions including Frankfort Square. At the January 23rd meeting, I even gave them the name of my HUD contact and his phone number.

Slide #50 (No Loans for Homes....Herald 2/17/75)

This article by Steve Brown, the editor of the Herald, was the result of his independent research. He states that the FHA and VA have regulations banning the issuance of mortgages for houses within 500 feet of a sewage treatment plant. He goes on further to say that a survey of savings and loan associations indicated a reluctance to approving loans near sewage plants.

Slide #51 (Devonshire map outlining 102 homes)

This map of the Devonshire Area indicates the extent of the possible loan problems within 500 feet of the proposed plant boundary. The 500 foot line takes into account the 100 foot width of Oakton. 102 homes are included within this 500 line. This could be solved by the MSD selling off a 400 foot strip south of Oakton but that would only leave a 41 acre parcel north of Wille Road which is too small for the plant.

So obviously we have a problem that neither the MSD or the USEPA had anticipated.

Slide #52 (3/75 draft EIS p. 5-25)

The USEPA simply concluded that the federal regulations did not provide specific regulations that must be followed for distance requirements.

Slide #53 (3/75 draft EIS p. 5-32)

The third and final conclusion of the USEPA is that "while the present buffer zone is adequate, a larger buffer zone would be desirable for aesthetic purposes and could be obtained if Wille Road were voluntarily abandoned. The USEPA fails to mention that Des Plaines pleaded with the MSD to consider more remote sites from December, 1965 to September, 1966 when the MSD purchased the site because it was for sale and easily obtainable. We see little difference between the existing 150 foot buffer and the 300 foot buffer that the MSD proposed if Wille was abandoned. The last 10 years has not improved the logic of the MSD site selection

Slide #54 (HUD letter dated 2-18-75)

On February 18, 1975 John Waner the Area director of HUD advised that the residential properties approved for mortgage insurance ranged from 500 feet to one-half mile, each depending on the nature of the projects and upon the advice furnished by environmental specialists. I forwarded this letter to the USEPA on February 21st.

Slide #55 (Frankfort Square field report)

If the USEPA had called the number I gave them and followed-up on the Frankfort Square advice I gave them, they would have found this memo in the HUD files. As the green memo dated 3/10/75 indicates Mr. Goldfarb obtained the information verbally from Mr. Brownyer who is John Waner's assistant. He used this information to compile his field report on the proposed Frankfort Square subdivision. He reported that the sewage plant's boundary line is 365 feet from the nearest residential lot line. "This is in violation of this area office's standard of 500'."

Slide #56 (Ward's 3-11-75 letter to 87 HUD offices)

On March 11, 1975 I sent a letter to all 87 HUD offices in the United States requesting their local interpretation of the HUD isolation regulations and any field reports as examples.

Slide #57 (3-19-75 letter from HUD Grand Rapids)

I received dozens of phone calls by my slide preparation deadline but only this one letter from the Grand Rapids, Michigan Insuring Office advising that the "State of Michigan usually seek a minimum of 800' isolation on even the smallest plant and a greater isolation with larger systems". I have since received several additional letters and these are representative examples:

Cleveland area requires 500 to 1500 feet
Wisconsin requires 1000 feet
Iowa requires 1200 feet

We intend to propose similar regulations to the Illinois Pollution Control Board that will apply to all new plants including the proposed O'Hare plant.

Slide #58 (3/75 draft EIS p.3-18)

We get some insight into why the USEPA has been reluctant to select the most cost-effective and environmentally sound alternatives. Mr. Mayo is concerned that his federal regional office will be blamed for not spending this year's money in the Chicago area. As the draft states, it would be "an economic stimulus to the local and national economy".

Slide #59 (Chicago Tribune 3/13/75)

John Quarles, the EPA Deputy Administrator from Washington confirmed this motivation when he said "getting this money into the economy is EPA's No. 1 goal at this time".

Slide #60 (July, 1971 Clavey EIS p. 29)

In the 1971 Clavey Plant situation in Highland Park, the USEPA felt that the project did not fully satisfy the letter, spirit or intent of the National Environmental Policy Act of 1969. They could not assure an environmentally safe condition unless both the plant and retention basin were covered and the air purified.

Slide #61 (Ward letter dated 7-3-73)

In 1973, we cited 4 reasons why the O'Hare plant should be at least given equal safeguards: the relative size, the combined air pollution, the wind direction and the established land use.

Slide #62 (HEPA, 1969)

In this actual copy of the Act itself, the Congress declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments to coordinate federal plans to the end that the Nation may assure for all Americans safe, healthful, productive and esthetically and culturally pleasing surroundings -- without degradation, risk to health or safety, or other undesriable or unintended consequences.

Slide #63 (aerial of sites 1 and 2)

In conclusion we must emphasize that an uncovered sewage plant on the Oakton-Elmhurst site 1 is unacceptable to this community. We will accept a partially uncovered plant on site 2 with the previously stated reservations.

Slide #64 (Our citizens anticipate:)

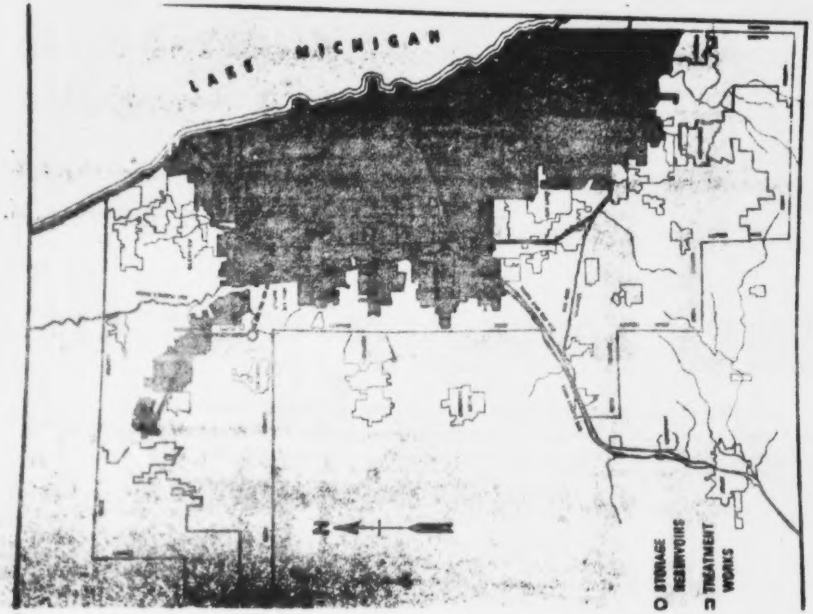
Finally -- Our citizens anticipate:

1) That the Nation will identify and fund only the most cost-effective and environmentally sound alternative within the total MSD area.
2) That the Nation will "assure for all Americans, safe, healthful, productive, and esthetically and culturally pleasing surroundings".

CITY OF
DES PLAINES
TESTIMONY

BY R.F. WARD

1



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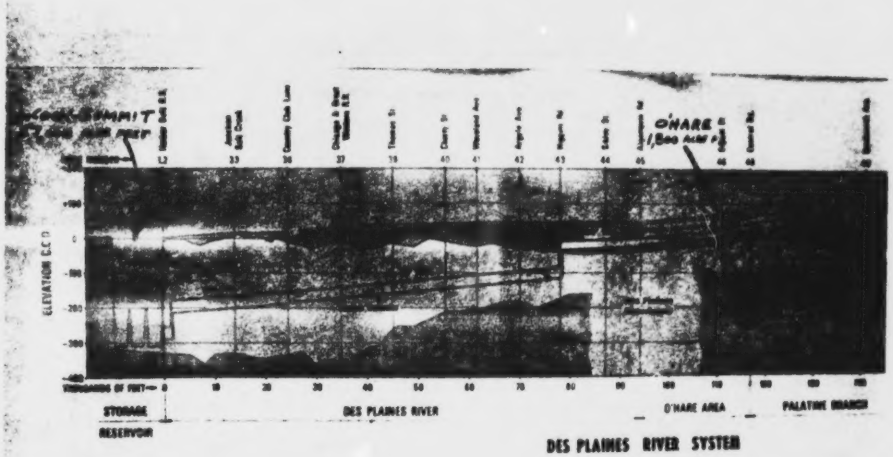


DES PLAINES RIVER SYSTEM

3

Reproduced from best available copy.

GENERAL

As discussed in the previous section, the Tunnel and Reservoir Plan evolved from a number of plans and studies presented in the past two decades, and was developed from an assembly of fully analyzed parts of alternatives G, H, I, and S, rearranged to provide maximum benefits for the least cost and to have the least adverse impact on the environment. It has never been subjected to the rigorous individual engineering analysis afforded other alternative plans.

Nov. '73 → TARP EIS p. 35

The Plan, as shown in Figure 5 , consists principally of three storage reservoirs and of a 120 mile tunnel system generally located along the existing waterways or public street rights-of-way. The tunnel alignment includes a connection between the Calumet area and the main reservoir, and a possible O'Hare Northwest connection. This would allow the entire system to operate as a unit with considerable advantages for storms having [illegible] areal distribution over the 375 square mile service area. Surface collection facilities and drop shafts for conveying the wastewaters to the tunnel system are also included. The storage system consists of the following elements: The main storage at McCook, providing some 57,000 acre-feet of space; a small surface storage reservoir of 1,800 acre-feet located in the vicinity of the new O'Hare Treatment Plant; and 4,000 acre-feet of storage at Stearns Quarry to be used for peak storage during the infrequent storms of great magnitude. The total storage provided in the tunnel system is 9,100 acre-feet.

4

Table 3

SUMMARY OF STORAGE TYPES AND LOCATION
CAPTURE TO PREVENT BACKFLOWS TO LAKE MICHIGAN

Nov. 73 TARP EA p. 38

Estimated Storage Volume - 1,000's acre-feet

	Tunnels						Mined				Quarried Pits		Surface					
Alternative	North Branch	Main Stream	Northwest	Main Des Plaines	Calumet	Subtotal	W-SW	Calumet	North Side	Other	McCook	Calumet	Calumet	W-SW	O'Hare	North Side	Other	Total
A	1.0	0.9	0.4	0.7	5.3	8.3	--	5.0	--	--	--	45.0	--	--	--	--	--	58.3
Ap	1.0	0.9	0.4	0.7	5.3	8.3	--	47.0	--	--	--	--	66.5	--	--	--	--	[illegible]
B	1.0	1.5	0.1	1.3	0.4	4.3	3.0	2.0	--	--	30.5	14.5	--	--	--	--	--	54.3
Bp	1.0	1.5	0.1	1.3	0.4	4.3	33.6	18.4	--	--	--	--	20.0	43.9	--	--	--	12[illegible].2
C	0.4	0.6	0.1	1.3	0.4	2.8	2.0	2.0	9.7	--	21.8	14.5	--	--	--	--	--	[illegible]
Cp	0.4	0.6	0.1	1.3	0.4	2.8	24.9	18.4	10.1	--	--	--	20.0	30.7	--	11.7	--	[illegible]
D¹	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	50.0	[illegible]
E	0.4	0.4	0.1	0.4	0.4	1.7	2.6	1.7	1.6	3.9	23.6	14.8	--	--	1.8	--	--	[illegible]
F	1.5	16.5²	0.1	1.8	2.6	22.5	--	--	--	--	--	--	--	--	--	--	27.5³	[illegible]
[redacted]	1.1	1.0	0.1	1.3	2.6	6.9	--	--	--	--	50.0	--	--	--	--	--	--	[illegible]
[redacted]	1.1	1.0	0.1	1.3	0.9	5.2	--	--	--	--	33.5	16.5	--	--	[illegible]	--	--	[illegible]
[redacted]	1.1	1.0	0.1	1.3	0.9	5.2	--	--	--	--	33.5	16.5	--	--	--	--	[illegible]⁴	[illegible]
O	0.4	1.0	0.1	0.7	0.9	3.1	--	--	2.5	--	22.2	16.5	--	--	1.8	--	--	[illegible]
Op	0.4	1.0	0.1	0.7	0.9	3.1	--	--	10.1	--	22.1	16.5	--	--	1.8	11.7	--	[illegible]
R	1.1	1.0	0.1	0.7	0.3	4.0	--	2.0	--	--	31.7	14.5	--	--	1.8	--	--	[illegible]
Rp	1.1	1.0	0.1	0.7	0.3	4.0	--	18.4	--	--	31.7	--	20.0	--	1.8	--	--	[illegible]
[redacted]	1.1	1.0	0.1	0.7	2.6	6.3	--	--	--	--	48.2	--	--	--	1.8	--	--	[illegible]

5

pollution standards would be desirable.

As I advised in our March 28, 1974 Des Plaines Public Comment (Section 5), the National Environmental Policy Act of 1969 and the Clean Air Act of 1970 give federal recognition to local laws, regulations and ordinances as a condition for federal grant funding. You received a copy of Mr. Mayo's letter to me dated August 21, 1974 confirming this funding condition.

In your preparation of the draft environmental assessment on the O'Hare plant, reservoir and tunnels, we are confident that you will adhere to NEPA 6.56(h) and answer each of our March 28, 1974 comments. We are interested in your detailed analysis of the uncertain costs for an underground plant and/or reservoir in light of the firm costs for the mined large tunnels that you desire to build.

We are also interested in your comments required by NEPA 6.32(d) on the "poss'ble interconnection" (Summary of Tech.Rpts, Aug. 1972, Exhibit 14) and the option of "no action" on the O'Hare plant and reservoir. We offer the opinion that it would be more cost effective to make the "connection" and eliminate the O'Hare plant (5% of total capacity) and reservoir (3% of total retention). Page 15 of the Tunnel and Reservoir Impact Statement dated 11/73 indicates the total daily flow averages 1527 MGD for both sewage and storm water., On September 11, 1974 your

WARD To
MSD
COPY:
USEPA
IEPA
ARMY
NIPC
10-7-74

6

[redacted]

ROUGH DRAFT

"..cost-effective calculations (Appendix C) indicates that the O'Hare Service Area requires a Water Reclamation Plant. As a result of this cost-effective calculation, USEPA has determined that the O'Hare service area can be separated from the TARP Program."

USEPA MARCH, 1975

In some TARP alternatives, the O'Hare service area was sewered by tunnels only, with wastewater treatment occurring at the MSD North Side STP or WSW (Stickney) STP. Although this alternative was considered, it was not supported in other engineering studies for the O'Hare Service Area. These reports support a WRP for the O'Hare Service Area and are discussed in Appendix C.

USEPA has determined that the O'Hare Service Area can be separated from the TARP program with respect to building the treatment plant and the conveyance system to it. No determination has been made with respect to building a combined sewage overflow reservoir or interconnecting the proposed conveyance system to the lower Des Plaines TARP system.

[redacted]

7

[redacted]

USEPA MARCH, 1975 DRAFT EIS

[redacted] that the [redacted] facility [redacted] and has been

C-3

8

USEPA MARCH, 1975 DRAFT EIS

Based on NIPC Land Use information, [redacted] that industrial land use will increase from approximately 2000 ac. in 1970 to 3300 ac. by year 2000.

p.3-6

Industrial development and flow is projected as follows:

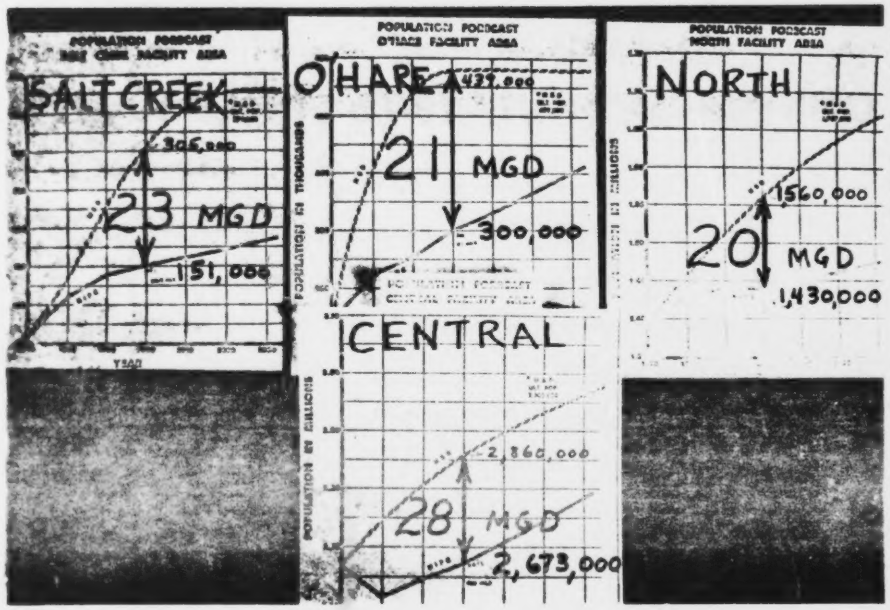
Year	POPULATION	[redacted]		Flow MSD @ 3200 GPAPD
[redacted]	223,000	[redacted]		6.4
1980	+35 %	5000	+265 %	16.0
1990		6500		20.8
[redacted]	300,000	[redacted]		23.4

Table 3-3. [redacted] for the O'Hare Service Area (Source: [redacted])

	[redacted]	1980	1990	[redacted]
[redacted]	[redacted]	43,400	46,300	47,100
[redacted]	[redacted]	68,600	74,300	75,800
[redacted]	[redacted]	31,200	34,300	34,700
[redacted]	[redacted]	143,200	154,900	[redacted]

+ 37 %

9



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USEPA MARCH, 1975 DRAFT EIS

Water Consumption in [redacted]

Community	(1) [redacted]	(2) Population	Flow(MGD)
Des Plaines	126	48,000	6.048
Mt. Prospect	97	28,000	2.716
Arlington Hts.	69	50,000	3.450
Elk Grove Village	148	15,000	2.220
Wheeling	103	11,000	1.133
		152,000	15.567

GPCPD for all Five Communities = $\frac{15.567 \text{ MGD}}{152,000}$ = [redacted]

Water Consumption in [redacted]

Community	(3) [redacted]		(4) Population	Flow (MGD)
Des Plaines	138	+ 10 %	57,300	7.907
Mt. Prospect	97	no change	35,000	3.395
Arlington Hts.	98	+ 42 %	64,880	6.358
Elk Grove Village	131	- 12 %	24,500	3.210
Wheeling	91	- 12 %	14,600	1.329
			196,280	22,199

GPCPD for All Five Communities = $\frac{22.199 \text{ MGD}}{196,280}$ = [redacted]

3-2

11

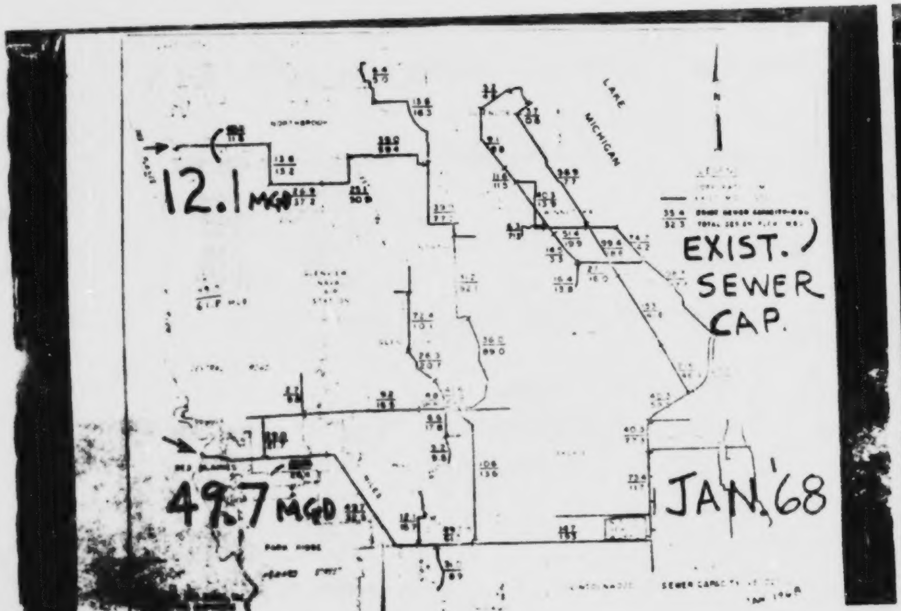
USEPA MARCH, 1975 DRAFT EIS

c. Water Quality & Quantity Problems

p.2-18

[redacted] conveyed to the [redacted]. The capacity of the conveying interceptor [redacted]. [redacted] that [redacted]. Combined sewers presently overflow to Weller's Creek and Feehanville Ditch, both of which are tributaries of the Des Plaines River, during low intensity storms. The problem is compounded in the Weller's Creek Basin by domestic and industrial wastes discharged to the creek as combined overflows. [redacted] flooding is common as are the unpleasant and unsanitary deposits of

12



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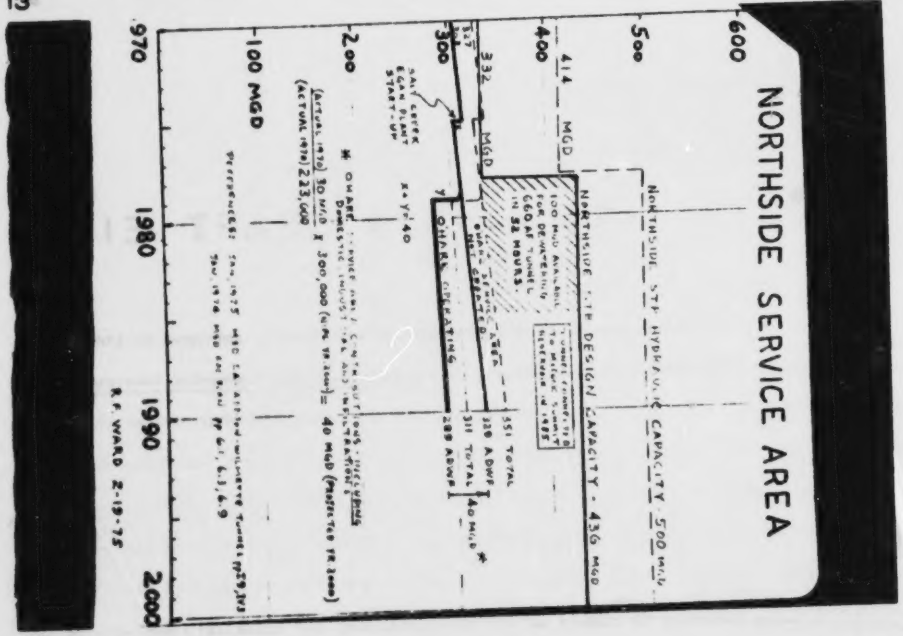

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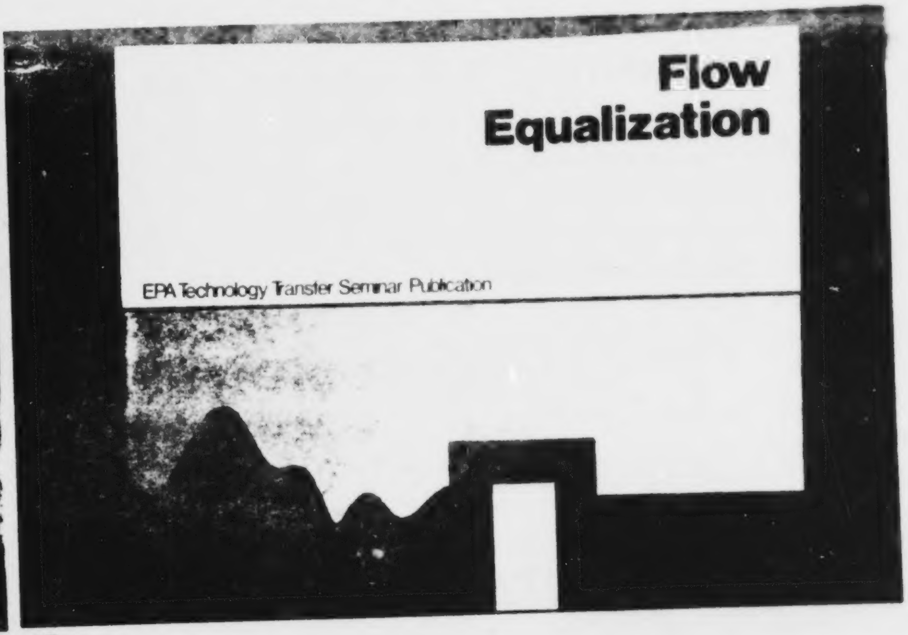

Flow
Equalization

EPA Technology Transfer Seminar Publication

15

USEPA MARCH, 1975 DRAFT EIS

p.3-43

The alternatives for the O'Hare treatment system, as given below, reflect the analyses published in MSDGC planning and design reports. As assumptions of plant loadings and acceptable systems have evolved during the planning process, it is to be noted that the reported loadings and assumptions are not totally consistent with the final design criteria. However, as the relative acceptability of the studied alternative is not influenced by these changes in assumptions, the reported alternatives are germane.

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approval. Our comments are divided as follows:

Part I - General comments on the O'Hare W.R.P.
Part II - General comments on the O'Hare tunnel system.
Part III - Comments on specific items in the present environmental assessment.

Part I - The O'Hare Water Reclamation Plant

USEPA
QUESTION
TO MSD
12-23-74

1. **The present discussion of alternate sites for the W.R.P. focuses on economic concerns in site selection.** The **environmental impacts** of the alternative sites should also **be addressed** and must be considered in the site selection **process.** An aerial photograph or area map (scale range 1" = 3,000' to 1" = 4,000') identifying site alternatives including the proposed reservoir site as a possible W.R.F. site should be provided. Include a summary matrix indicating **the beneficial and adverse impacts of each site considered in the screening of sites.** (Be sure to address the flood **potential problems of each site).**

2. **Feasible alternative treatment processes, such as physical-chemical treatment, should be evaluated on a cost-effective basis. A cost-effective alternative is not necessarily the alternative with the least monetary cost.** The cost-effective evaluation must take into account environmental costs and

---

neutral or adverse environmental impact of each site.

Summary of Matrix Impacts

MSD ANSWER.
1-20-75

Quality

	Sites 1	2	3	4	5	6
Water	**+1**	**+1**	**+1**	**+1**	**+1**	**+1**
[redacted]	0	0	0	-1	-1	0
Noise	0	0	0	0	0	0
Visual Effect	0	0	-1	0	0	0
Flood Potential	0	-1	+1	0	-1	0
Net Impact	+1	0	+1	0	-1	+1

AIRPORT NOT ZONED INDUSTRIAL.

VSEPA NEGLECTED TO SPECIFY "COMBINED SEWAGE" RESERVOIR IN THEIR QUESTION.

+1 Beneficial effect
0 Neutral effect
-1 Adverse effect

Based on the foregoing it can be concluded that none of the sites considered for O'Hare WRP is clearly outstanding from the rest in terms of impact on the environment. Sites

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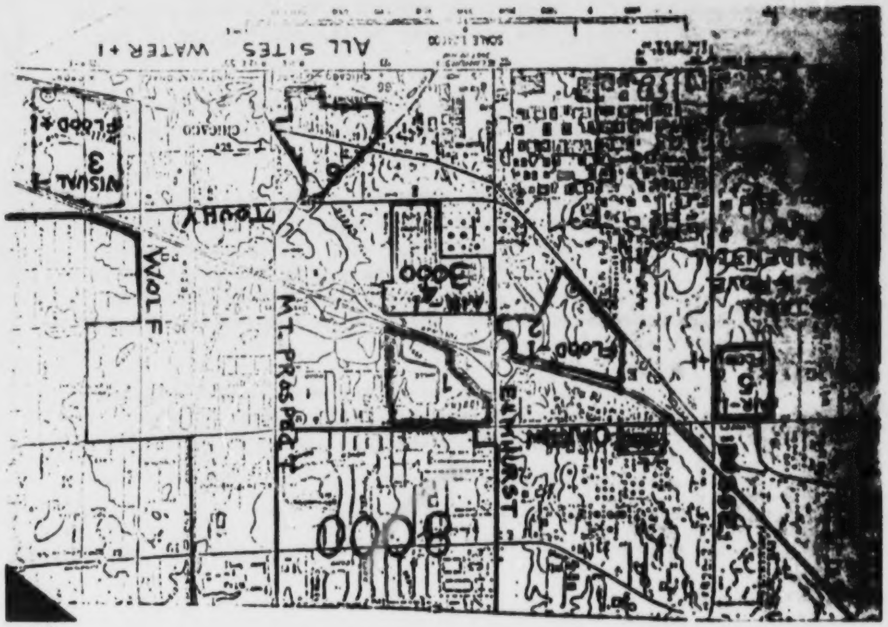

B. Air Quality: MSD ANSWER 1-20-75

It is believed that the proposed plant will not adversely affect the air quality of the surrounding area. However, **if it is assumed that O'Hare WRP does adversely affect the air quality, then it could be concluded that sites 1, 2, 3 and 6 will be the most advantageous sites due to their relative isolation from residential developments. Site No. 1 borders on a residential tract adjacent to the north, however,** the plant site is large enough so that adequate **distance** can be provided between the treatment facilities **and the nearby homes.** Site No. 4 adjoins a trailer-park and **site No. 5 is surrounded by residential houses** and small manufacturing firms on all four sides.

150 FT.!

[illegible]
problems are anticipated with the operation of the drop shafts or the 3'6" X 10'0" open grate necessary to the functioning of the drop shaft.

4. Our review of the MSDGC's response to our questions of December 23, 1974 has indicated the need for additional clarification of the following points.

USEPA
FOLLOW-UP
QUESTION
1-29-75

a. In your response to Question 1, part 1, it is unclear why sites 4 and 5 would have a negative (-1) impact (See summary matrix and associated discussion) on the air quality of sites 4 and 5 (assuming the plant did have a negative impact on air quality) while the same reasoning would not be true of site 1 which is directly south of a residential area.

b. Question 4, Part I related to the environmental impact of the discharge effluent to Higgins Creek and the Des Plaines [illegible] analysis curves illustrating

CONCURRENCES

OFFICIAL FILE

21

[redacted]

Response:

MSD
FOLLOW-UP
ANSWER
2-3-75

If it is assumed that the O'Hare WRP did have a negative impact on air quality, those locations affecting the most number of people would appear to be the least desirable sites. Following through this reasoning, sites 4 and 5 were considered to be inferior to other sites. Site 4 is adjacent to a trailer park where population density is quite high and site 5 is surrounded by residences and numerous small manufacturing firms where a considerable number of people are employed. Compared to sites 4 and 5, site 1, though adjacent to a residential area, appears to be environmentally more favorable because the effect of negative impact would be experienced by fewer number of people.

USEPA
COMMENT
ON FILE
COPY → what?

22

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
722 Jackson Place, N. W.
Washington, D. C. 20006

March 21, 1974

Dear Alderman Ward:

Thank you for your recent letter concerning the proposed sewage treatment facilities being planned for the Des Plaines area. We agree that any decision to fund this proposal with Federal money should require a careful evaluation of environmental affects including impacts on land use caused by location of the facility on the site. At the same time, we share your concern that the necessary environmental review to assure compliance with the National Environmental Policy Act be carried out in a timely fashion so as not to delay progress on the construction of needed facilities.

We are discussing this project with the Environmental Protection Agency, with particular regard to the points you have raised.

In response to your request, I am enclosing a copy of our most recent Annual Report. Thank you for writing the Council.

Sincerely,

William Matuszeski
Senior Staff Member

Mr. Richard F. Ward
Alderman 6th Ward
1410 Miami Lane
Des Plaines, Illinois 60016

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USEPA MARCH, 1975 DRAFT EIS

~~[illegible]~~ (~~[illegible] west of Elmhurst Road~~ NEXT To FLICK-REEDY
One site (off Devon) exists north of the receiving stream, another alternative, off Elmhurst, would be located south of the receiving stream.)

p. 3-15

~~[illegible] might cause time delays due to its location in [illegible] does not have powers of eminent domain~~.

These sites are located east and south of the existing Centex Industrial Park.

Vacant land and industrial development surround these locations. This site would require 11,000 - 14,000 feet of 7 foot diameter influent sewer to dewater main rock tunnel.

24

25

USEPA MARCH, 1975 DRAFT EIS

5. **Preliminary Screening of Site Alternatives** ELIMINATED ALL SITES NOT OWNED BY MSD

p. 3-17 a. Site 4, (Residential Trailer Park) Site 5, (Large Industrial Building), Site 6 (Extensive Industrial Development) and Site 9 (Industrial Building) are being eliminated, from further consideration since these sites have physical structures committed to specific land uses. USEPA believes it would be counterproductive to tear down existing structures and relocate existing residences and industries when acceptable vacant sites exist within the service area.

b. Site 7 is being eliminated because it lies in the "clear zone" approach to runway 9L on O'Hare International Airport.

c. Sites 3 and 8 are being eliminated for the following reasons:

1) The availability of both of these sites is unknown at the present time. The airport authority appears to be opposed to the construction of a sewage treatment facility (Site 3) on its land. While Site 8 is vacant and for sale, it lies in DuPage County and the acceptance by DuPage County of siting a WRP in that location is undetermined.

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USEPA MARCH, 1975 DRAFT EIS

~~Center of the aeration tanks was used as the reference point in determining distances.~~

Site 1 - present WRP layout (restricted to North of Wille Road by City of Des Plaines refusal to vacate) From center of aeration tanks to:

(1) Residential area to North = 530 feet
(2) Residential area to South = 2,380 feet
AVG. 1455'

Site 1 - Alternate layout (Wille Road vacated)

(1) Residential area to North = 1480 feet
(2) Residential area to South = 1480 feet
AVG. 1480'

Site 2 - WRP located to maximize distance from site 1.

DEVONSHIRE - WAYCINDEN..10,000 (1) Residential area to NE = 3,100 feet
OASIS/LEAHMANS...3,000 (2) Residential area ESE = 2,640 feet
ROPOLO.........150 (3) Residential area SW = 1,840 feet
WILLOWAY.......500 (4) Residential area NNW - 1,840 feet
AVG 2355'

3-20

27

USEPA MARCH, 1975 DRAFT EIS

Based on all the information available, it is the conclusion of USEPA that no demonstrable health hazard has been shown to exist with respect to the operation of activated sludge facilities, such as the one proposed for the O'Hare WRP. (Evidence supporting this conclusion is discussed in detail in Chapter 5).

p. 3-21 In addition, USEPA believes that the odor control measures planned for the O'Hare Facility will prevent problems from occurring. (See Appendix I and Chapter 5). Therefore no advantage would be gained by choosing site 2 over site 1 on a basis of distances from residences. X

Should it be the case that odor problems occur or that a health hazard is shown to exist the MSDGC has indicated their willingness to take steps to mitigate any future problem. In a letter to this agency MSDGC has indicated that they will take every reasonable and rational action to safeguard the health of the citizens it serves. (See Appendix I for

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USEPA MARCH, 1975 DRAFT EIS

I. **Findings**

(1.) **Funding** the proposed Water Reclamation Plant on site 1 is acceptable to USEPA.

29

The National Environmental Policy Act of 1969 "assures for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings."

The 1974 Edition of Encyclopaedia Britannica devotes 14 pages to a discussion of the word AESTHETICS. The excerpts will help to relate the Act to our peoples' concern about living next to a sewage plant.

"In the broadest sense aesthetic value is taken as intrinsic pleasure or the liking of a thing for itself, as against liking it as a means to an end."

"Aesthetics is the study of immediate experience and its objects when valued for its own sake, either described conceptually as a special science observing it from without or reported intuitively as it is felt from within."

Richard F. Ward
February 12, 1975

30

S I T E S E L E C T I O N

Value Judgements
5 Excellent
4 Good
3 Fair
2 Poor
1 Very Poor

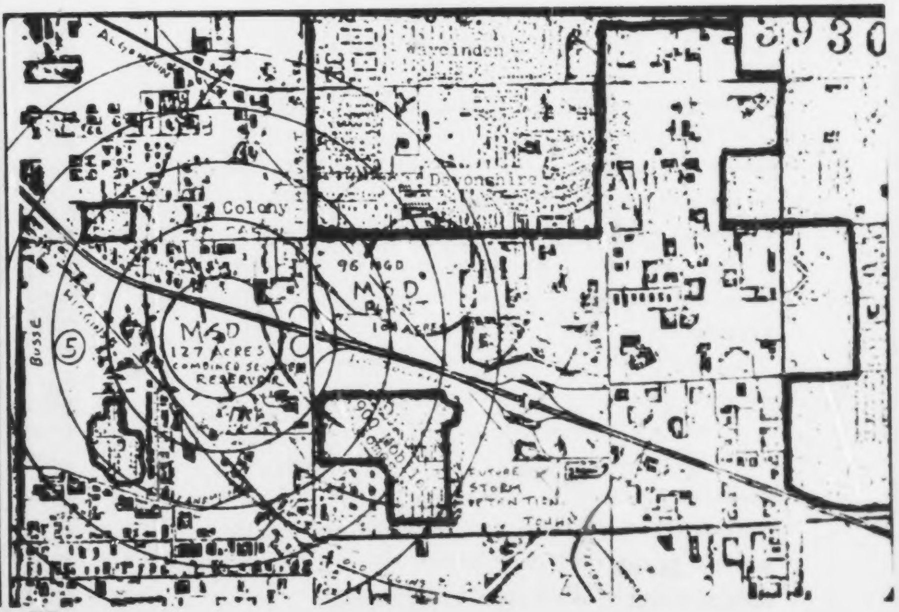
		Aesthetically Remote		Emission Control		Cost		
		Value	Weight 5 x	Value	Weight 4 x	Value	Weight 3 x	Total
Expand Salt Creek Plant and interconnect TW and Des Plaines Tunnels		4	20	4	16	5	15	51
Airport Sites 1 & 2 Centex Site 3	**Uncovered**	5	25	1	4	5	15	= 44
	Covered	5	25	4	16	3	9	50
	Underground	5	25	4	16	1	3	44
Southeast of Higgins and Busse Site 5	Uncovered	4	20	1	4	5	15	39
	Covered	4	20	4	16	3	9	45
	Underground	4	20	4	16	1	3	39
Southwest of Mt. Prospect and Touhy Site 4	Uncovered	4	20	1	4	4	12	36
	Covered	4	20	4	16	2	6	42
	Underground	4	20	4	16	1	3	39
Southwest of Tollway and Elmhurst. and Ravenswood Airport site	Uncovered	3	15	1	4	5	15	= 34
	Covered	3	15	4	16	3	9	40
	Underground	3	15	4	16	1	3	34
Oakton and Elmhurst	Uncovered	1	5	1	4	5	15	= 24
	Covered	1	5	4	16	3	9	30
	Underground	1	5	4	16	1	3	24
	Uncovered							
	Covered							
	Underground							

The above represents our local value judgments and weights.

It is requested that each member of the [illegible] fill in his or her own values and weights and add any other factors that each individual feels would be professionally relevant.

R. F. Ward 2/13/75

31



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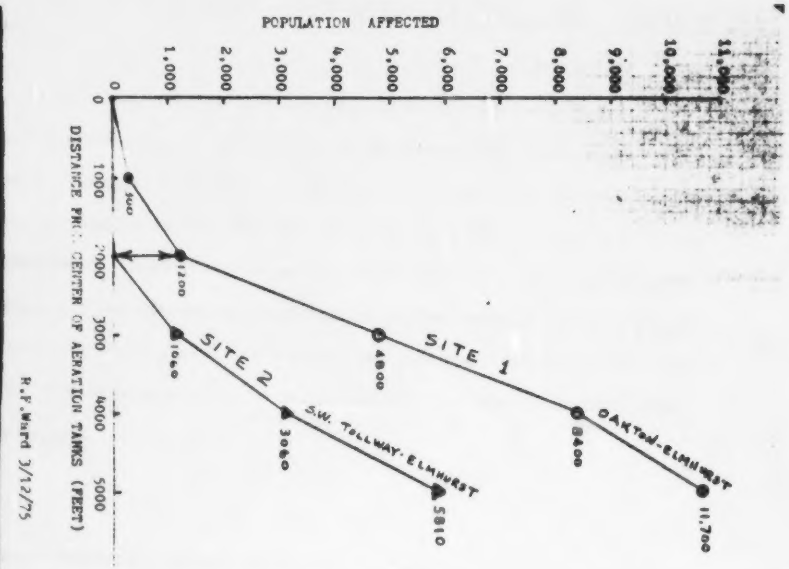
[redacted]



R.F.Ward 3/12/75

USEPA MARCH, 1975 DRAFT EIS

p.5-19

humidity, lower temperatures, and darkness. The fact that aerosols are generated cannot be disputed. Aside from the environmental factors considered to this point, a considerable amount of work has been done on the effect of other environmental factors and their impact on the survival of bacterial and viral aerosol particles.

Resistance to aerosol stress is highly dependent on species and life cycle stage. Klebsiella propably owes much of its resistance to its polysaccharide capsule. Even the effect of varying critical parameters

2. We share with you and your staff considerable reservations about the District's choice of site for the facility, in view of the proximity of the site to an established residential neighborhood. We will approve the site currently proposed by the District only if the following conditions are agreed to and incorporated into the Facilities Plan for the area:

ILLINOIS
EPA
2-10-75

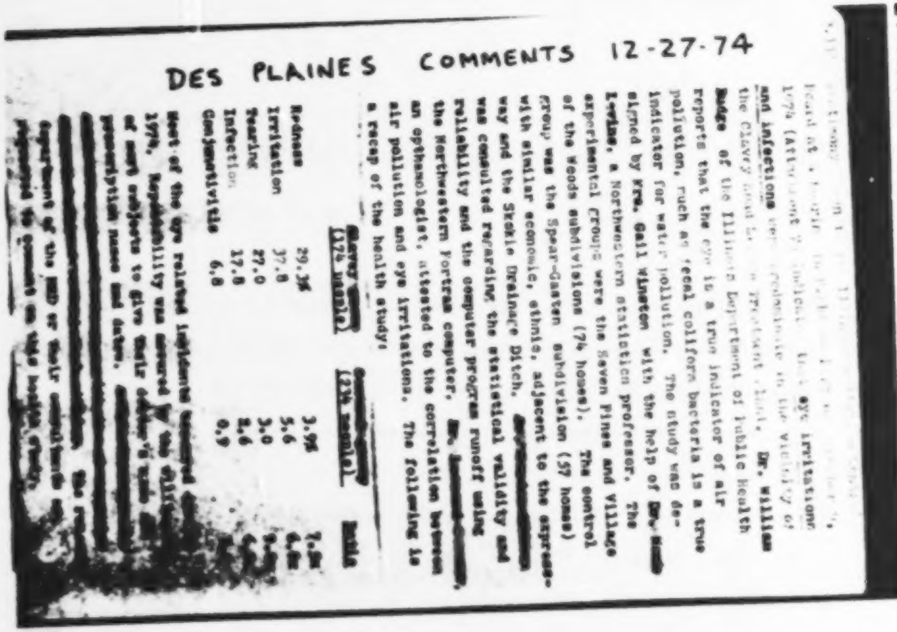
(a) Particular attention must be paid to landscaping of the site following construction, so as to maximize visual screening of the site on the northern and eastern [illegible] from ground level view.

(b) Those process units which are sources of odor during periods of process upset, or which may produce aerosols capable of transmitting pathogens must be covered, and suitable additional controls provided to eliminate these potential hazards to the nearby residential areas.

If, in the alternative, the District wished to pursue relocation of the facility to a site further removed from permanent residential areas- e.g. the site presently owned by the District which lies [illegible] of the proposed site on the opposite side of the Northwest Tollway, it is conceivable that these requirements can be relaxed somewhat, and perhaps eliminated.

USEPA MARCH, 1975 DRAFT EIS

In summary, it can be seen that there are innumerable factors which control the viability and infection potential of micro-organisms commonly found in wastewater aerosols. To conclude that the presence of these aerosols will positively result in a public health hazard is not supported by scientific evidence. Conversely, it has not been proven that there is no possibility that such aerosols have any public health impact. There is simply no epidemiological data available, of which we are aware, that would indicate any public health impacts whatsoever. Given this tremendous gap in evidence, we cannot, at this time, conclude that the aerosols generated at the O'Hare Water Reclamation Plant will have any significant adverse impact. This is by no means a closed case. Should such evidence become available, we would find it imperative to require mitigative remedies necessary to eliminate any public health hazard as well as implement compliance with any law applicable. Because



DES PLAINES COMMENTS 12-27-74

[illegible] testimony [illegible] to the Illinois [illegible]
Board at a hearing [illegible] 1974,
1974 (Attachment 7) indicates that eye irritations
and infections were predominate in the vicinity of
the Clavey Road [illegible] Treatment Plant. Dr. William
Budge of the Illinois Department of Public Health
reports that the eye is a true indicator of air
pollution, such as fecal coliform bacteria is a true
indicator for water pollution. The study was de-
signed by Mrs. Gail Winston with the help of [redacted]
Levine, a Northwestern statistics professor. The
experimental groups were the Seven Pines and Village
of the Woods subdivisions (74 homes). The control
group was the Spear-Gasten subdivision (57 homes)
with similar economic, ethnic, adjacent to the express-
way and the Skokie Drainage Ditch. [redacted]
was consulted regarding the statistical validity and
reliability and the computer program runoff using
the Northwestern Fortran computer. [redacted],
an opthamologist, attested to the correlation between
air pollution and eye irritations. The following is
a recap of the health study:

	[redacted] (174 people)	[redacted] (234 people)	Ratio
Redness	29.3%	3.9%	7.5x
Irritation	37.8	5.6	6.6x
Tearing	27.0	3.0	9.[illegible]
Infection	17.8	2.6	[illegible]
Conjunctivitis	6.8	0.9	[illegible]

Most of the eye related incidents [illegible]
1974. Reproducibility was assured by the [illegible]
of most subjects to give their doctor's name [illegible]
prescription names and dates. [redacted] The [illegible]
Department of the HUD or their consultants [illegible]
prepared to comment on this health study.

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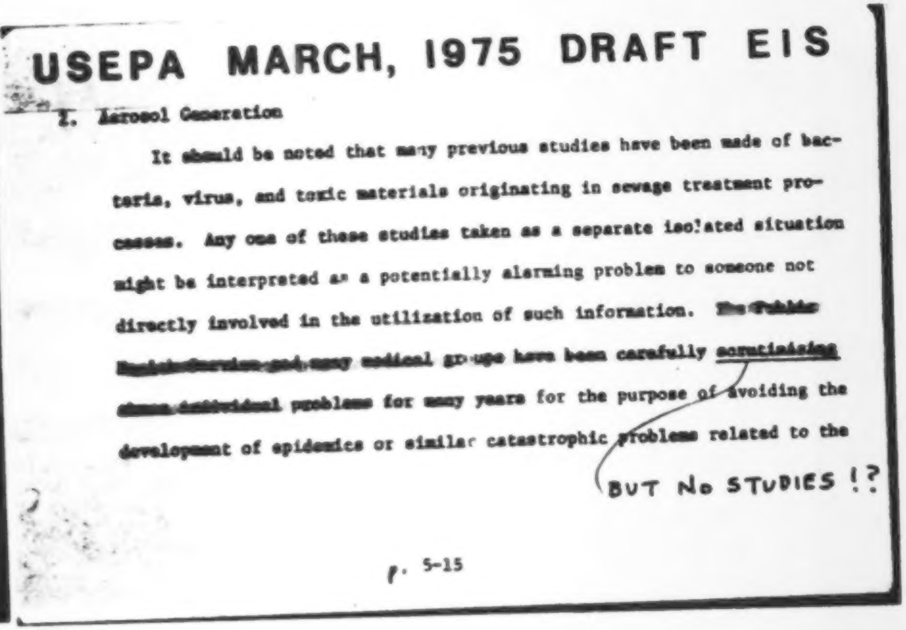


USEPA MARCH, 1975 DRAFT EIS

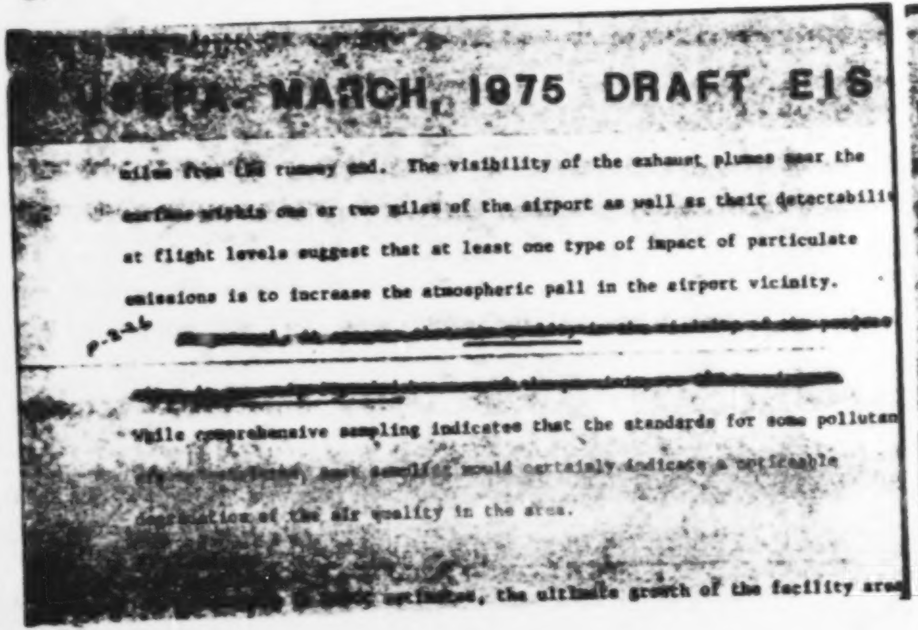
1. Aerosol Generation

It should be noted that many previous studies have been made of bacteria, virus, and toxic materials originating in sewage treatment processes. Any one of these studies taken as a separate isolated situation might be interpreted as a potentially alarming problem to someone not directly involved in the utilization of such information. [redacted] medical groups have been carefully scrutinizing [redacted] problems for many years for the purpose of avoiding the development of epidemics or similar catastrophic problems related to the

BUT No STUDIES !?

p. 5-15

39



[illegible] MARCH, 1975 DRAFT EIS

miles from the runway end. The visibility of the exhaust plumes near the surface within one or two miles of the airport as well as their detectabili[illegible] at flight levels suggest that at least one type of impact of particulate emissions is to increase the atmospheric pall in the airport vicinity.

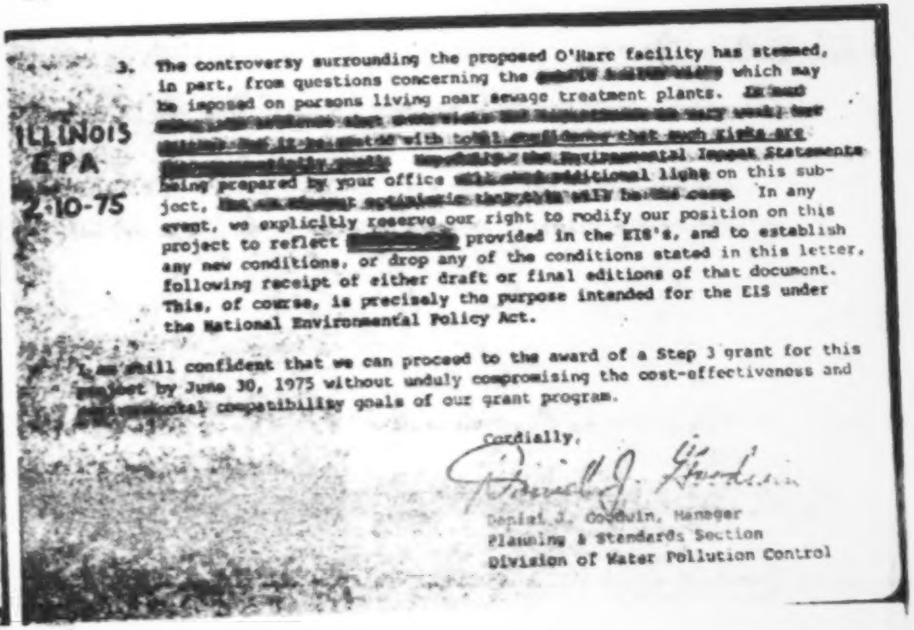
p-2-26

[redacted]

While comprehensive sampling indicates that the standards for some pollutan[illegible] [illegible] would certainly indicate a noticeable [illegible] of the air quality in the area.

[illegible] optimistic, the ultimate growth of the facility are[illegible]

38



ILLINOIS
EPA
2-10-75

3. The controversy surrounding the proposed O'Hare facility has stemmed, in part, from questions concerning the [redacted] which may be imposed on persons living near sewage treatment plants. [redacted] the Environmental Impact Statements being prepared by your office [redacted] light on this subject. [redacted] In any event, we explicitly reserve our right to modify our position on this project to reflect [redacted] provided in the EIS's, and to establish any new conditions, or drop any of the conditions stated in this letter, following receipt of either draft or final editions of that document. This, of course, is precisely the purpose intended for the EIS under the National Environmental Policy Act.

I am still confident that we can proceed to the award of a Step 3 grant for this project by June 30, 1975 without unduly compromising the cost-effectiveness and environmental compatibility goals of our grant program.

Cordially,

Daniel J. Goodwin

Daniel J. Goodwin, Manager
Planning & Standards Section
Division of Water Pollution Control

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USEPA MARCH, 1975 DRAFT EIS

chloramines), then lethality to micro-organisms might even be enhanced because of the close and prolonged proximity of the disinfecting species to the microbes following desiccation.

p. 5-21

Even more uncertain are the processes of the infection mechanism once contaminated aerosols are inhaled by humans. Because little is known of the minimum infecting dose of most organisms, little can be concluded from a public health standpoint.

The infectious process is indeed complicated and almost innumerable variables must be considered. A range of from one to many thousands of infectious organisms may be required to produce a disease state. Authorities have observed that sewage effluent is not particularly hazardous to sewage plant workers or people associated with

USEPA MARCH, 1975 DRAFT EIS

I. Findings

(1.) Building the proposed Water Reclamation Plant on site 1 is acceptable to USEPA.

(2.) Present knowledge on the potential health hazard aerosol generation indicates that covering of the proposed Water Reclamation Plant is unnecessary. Should ongoing or future research indicate that mitigative measures such as covering are required for sewage treatment plants of this size and process, the MSDGC has assured that they will take whatever measures are necessary to correct any demonstrated problem.

p. 5-32

USEPA MARCH, 1975 DRAFT EIS

At the present time, it is not possible to judge the exact extent of the potential odor problems resulting from the operation of the proposed O'Hare Water Reclamation Plant at Site 1. Given the extensive control and operational measures described above, it cannot be assumed that this plant will experience the odor problems associated with other MSDGC facilities. If significant odor problems result from operation of the proposed plant, it would be possible to take necessary mitigative measures at that time.

p. 5-15

USEPA MARCH, 1975 DRAFT EI

The satisfactory performance of a properly designed wastewater treatment plant is hinged on the reliability of back-up facilities to sustain the system at its design capacity at all times. Observations indicate that odor problems, if any exist, occur during plant over-loading or by-passing of essential treatment processes resulting from mechanical difficulties and unreliable standby facilities. Indifferent maintenance and operation management may also supplement or aggravate the problem.

p. 5-14

[illegible] difficulties to cause an odor problem. MSDGC's

USEPA

Overloaded secondary treatment facilities are also a potential source of odor. If the air supply to an activated sludge aeration tank is inadequate, odorous conditions usually develop. It is also possible that a properly sized air supply system can strip odorous gases from aerating wastewater.

USEPA'S UPGRADING STP TECHNOLOGY TRANSFER SERIES P. 9-11

Odors associated with sludge treatment occur in thickening, digestion and sludge dewatering facilities. Thickeners may receive both septic primary and secondary sludges. Gases from well-operated digesters may contain small quantities of H_2S, which are usually destroyed by normal flaring of digester gas. The predominant odor in digested sludge is ammonia, although traces of volatile organic acids may be present.

9.3.2 Odor Measurement

Odor data are generally qualitative rather than quantitative in nature. The two available

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oxidation (chlorine and ozone), adsorption, or masking the odors with chemical additives and aerosols. Odor control of raw wastes is generally accomplished by preaeration or prechlorination. Preaeration has been discussed previously, and prechlorination dosages for odor control range from 10 to 20 mg/liter [1].

Ozone is a strong oxidizing agent that has been used successfully to treat the odor-causing substances in effluents from preliminary treatment. It has also been used to eliminate odors in the air emanating from gravity and sludge-thickening tanks.

METCALF + EDDY p. 478

Controlling odors from sludge drying beds is seldom necessary if the sludge is well digested. Open beds are generally located far from residences to minimize any possible nuisance. Methods for odor control of drying sludge include spraying aerosols from fixed fog nozzles located around the drying beds and liming the sludge.

PROBLEMS

9-4 A vertical bar rack with 1-in. openings is to screen sewage arriving at the treatment plant in a circular sewer with $d = 4$ ft, $n = 0.013$, $s = 0.00064$. The maximum carrying capacity is four times the average dry weather flow. Find the size of the steel bars comprising the rack, the number of bars in the rack, and the

Wastewater Engineering: Collection, Treatment, Disposal

46

USEPA MARCH, 1975 DRAFT E

The practice of land application of stabilized sewage solids to enhance agricultural production has advantages as follows:

1) It does not contribute to any environmental pollution (air or water).

Sludge shipments must stop

The Illinois Environmental Protection Agency Monday ordered the [illegible] to stop [illegible] treated sludge to Fulton County because the [illegible] bad. The EPA also cited the sanitary district for air pollution and asked the Illinois Pollution Control Board to take action against the district. The sanitary district began shipping Chicago's sludge to Fulton County more than three years ago to get rid of Chicago's sewage and to fertilize the strip-mined lands of Fulton County.

[illegible] TUES, 3-11-75

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USEPA MARCH, 1975 DRAFT EI

B. Operational Impacts

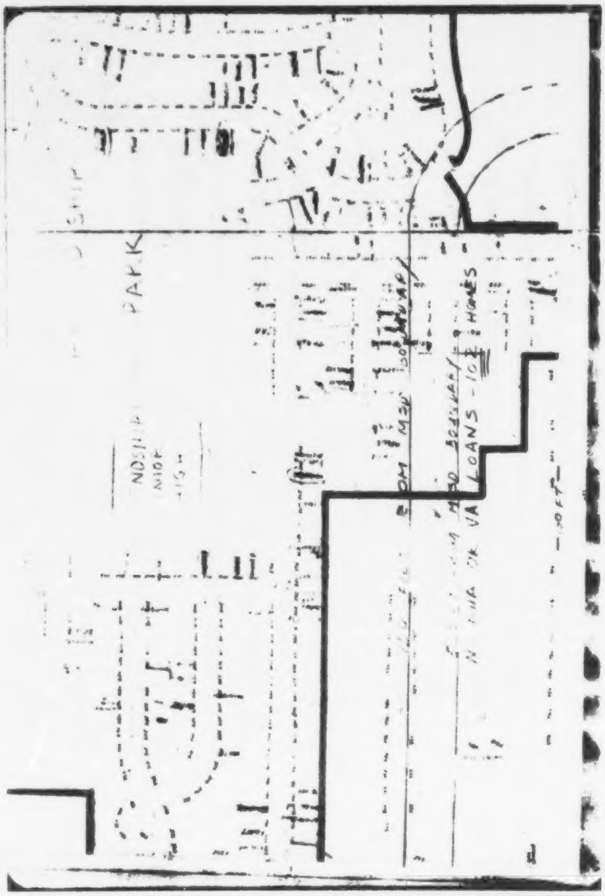
1) Air Quality

a) Occasional odors [illegible] WRP. These are expected to be infrequent due to odor control measures and the absence of sludge processing facilities.

p. ii

b) The Water Reclamation processing facilities, especially the activated sludge aeration tanks will generate a limited quantity aerosols containing bacteria and virus particles. The present state of knowledge indicates that there is no demonstratable health hazard associated with

48



51

USEPA MARCH, 1975 DRAFT EIS

p 5-25

The City of Des Plaines has raised several objections to the location of the WRP at Site 1. Cited as references to the possible negative environmental, social and economic effects of the treatment plant at Site 1 are certain U.S. Department of Housing & Urban Development Handbooks. These handbooks discuss sewage treatment plant locations in regard to proximity to residential areas. The handbooks do not provide specific regulations which must be followed (for example, distance requirements). The sections i, j, and k from Chapter 1 of HUD Handbook 4135.1, Subdivision Analysis and Procedures for Home Mortgage Insurance, January 1973 are included as Appendix N. Section 5.h. from HUD Handbook 4140.1, Land

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THE CITY OF DES PLAINES
COOK COUNTY ILLINOIS
MEMBER ILLINOIS
MUNICIPAL LEAGUE

RICHARD F. WARD
Alderman 8th Ward
1410 Miami Lane
Des Plaines, Illinois 60018
(AC 312) 827-8775

February 13, 1975

Mr. Harlan D. Hirt
U.S. Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois 60604

Dear Mr. Hirt,

Please devote a paragraph in the draft EIS to a discussion of the VA and FHA interpertation of the attached HUD regulations and the attached "Ten States Standards."

Several representative opinions concerning sewage treatment plants could possibly be cited:
- Frankford Square
- Roselle
- New Lenox
- Hanover

Sincerely,

Richard F. Ward

Richard F. Ward

9

Des Plaines

Monday, February 17, 1975

No loans for homes by sewage plant

by STEVE BROWN

Some home buyers may encounter mortgage difficulties if their "dream house" is near a sewage plant.

Both the Federal Housing Administration and the Veterans Administration have regulations banning the issuance of mortgages for houses within 500 feet of a sewage plant.

A survey of savings and loan associations also indicated that while there is no formal policy, loan officers would be reluctant to grant mortgages for homes built near sewage plants.

THE LOAN OUTLOOK could pose problems to home buyers in some sections of Des Plaines, Elk Grove Village and Schaumburg, which have residential areas near existing or proposed sewage

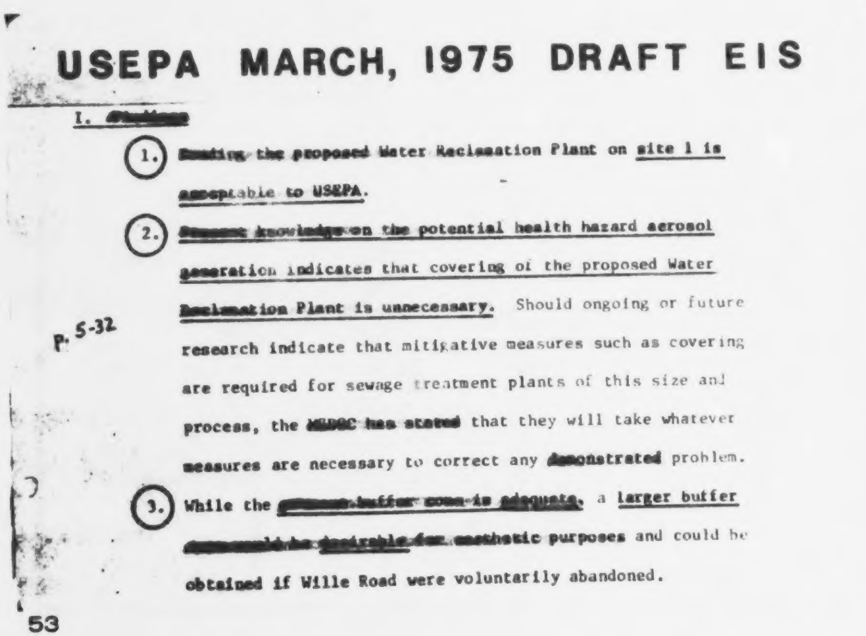
500-foot buffer zone must be measu
from lot line to lot line.

Both the Elk Grove Village
Schaumburg homes are near the John
Egan Water Reclamation plant on M
cham Road in Schaumburg. The Lex
ton Green development is directly n
of the homes and adjacent to the plan

WHILE ONLY NEW homes are aff
ed in Elk Grove Village and Scha
burg, more than 100 homes are wi
the 500-foot limit of the proposed sit
the O'Hare Sewage Treatment Plan
Des Plaines.

The plant, Oakton Street and Elmh
Road, has been the subject of a h
fought controversy between Metropol
Sanitary District and Des Plaines
cials. The city has been battling for m
than nine years in and out of court i
effort to get the plant site changed
the MSD last week countered with a

50



USEPA MARCH, 1975 DRAFT EIS

I. Findings

1. Siting the proposed Water Reclamation Plant on site 1 is acceptable to USEPA.

2. Present knowledge on the potential health hazard aerosol generation indicates that covering of the proposed Water Reclamation Plant is unnecessary. Should ongoing or future research indicate that mitigative measures such as covering are required for sewage treatment plants of this size and process, the MSDGC has stated that they will take whatever measures are necessary to correct any demonstrated problem.

P. 5-32

3. While the present buffer zone is adequate, a larger buffer zone would be desirable for aesthetic purposes and could be obtained if Wille Road were voluntarily abandoned.

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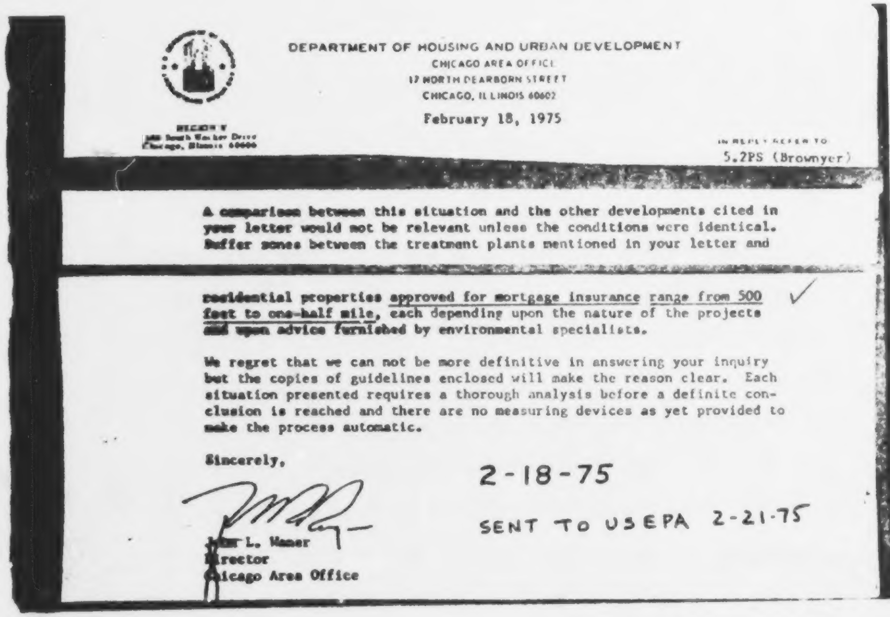

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
CHICAGO AREA OFFICE
17 NORTH DEARBORN STREET
CHICAGO, ILLINOIS 60602

REGION V
300 South Wacker Drive
Chicago, Illinois 60606

February 18, 1975

IN REPLY REFER TO
5.2PS (Brownyer)

A comparison between this situation and the other developments cited in your letter would not be relevant unless the conditions were identical. Buffer zones between the treatment plants mentioned in your letter and

residential properties approved for mortgage insurance range from 500 feet to one-half mile, each depending upon the nature of the projects and upon advice furnished by environmental specialists. ✓

We regret that we can not be more definitive in answering your inquiry but the copies of guidelines enclosed will make the reason clear. Each situation presented requires a thorough analysis before a definite conclusion is reached and there are no measuring devices as yet provided to make the process automatic.

Sincerely,

John L. Waner
Director
Chicago Area Office

2-18-75

SENT TO USEPA 2-21-75

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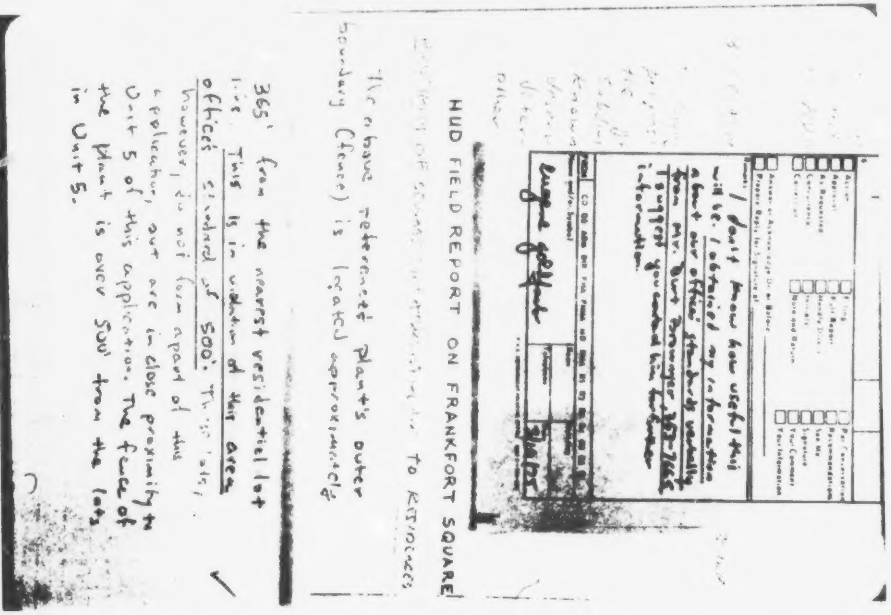


☐ Action	☐ Filing	☐ Per Conversation
☐ Approval	☐ Full Report	☐ Recommendation
☐ As Requested	☐ Handle Direct	☐ See Me
☐ Concurrence	☐ Initials	☐ Signature
☐ Correction	☐ Note and Return	☐ Your Comment
		☐ Your Information

☐ Answer or Acknowledge On or Before

☐ Prepare Reply for Signature of

Remarks: I don't know how useful this will be. I obtained my information about our offices' standards verbally from Mr. Burt Brownyer, 353-7665. I suggest you contact him for further information.

FROM: Name and/or Symbol: Eugene Goldfarb

Date: 3/18/75

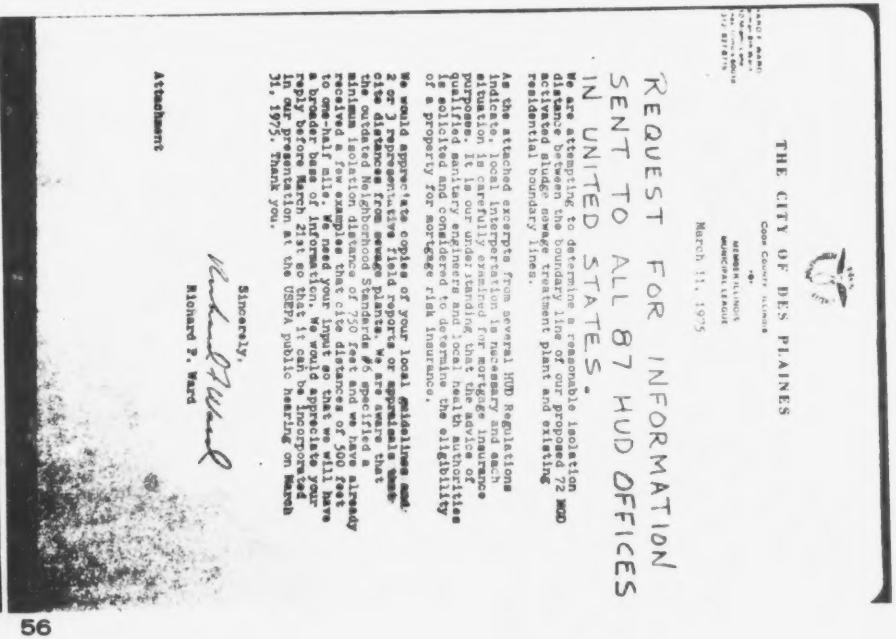
HUD FIELD REPORT ON FRANKFORT SQUARE

[illegible] TO RESIDENCES

The above referenced plant's outer boundary (fence) is located approximately

365' from the nearest residential lot line. This is in violation of this area office's standard of 500'. These lots, however, do not form a part of this application, but are in close proximity to Unit 5 of this application. The fence of the plant is over 500' from the lots in Unit 5. ✓

55



THE CITY OF DES PLAINES
COOK COUNTY, ILLINOIS
MEMBER ILLINOIS
MUNICIPAL LEAGUE

March 11, 1975

REQUEST FOR INFORMATION
SENT TO ALL 87 HUD OFFICES
IN UNITED STATES.

We are attempting to determine a reasonable isolation distance between the boundary line of our proposed 72 MGD activated sludge sewage treatment plant and existing residential boundary lines.

As the attached excerpts from several HUD Regulations indicate, local interpertation is necessary and each situation is carefully examined for mortgage insurance purposes. It is our understanding that the advice of qualified sanitary engineers and local health authorities is solicited and considered to determine the eligibility of a property for mortgage risk insurance.

We would appreciate copies of your local guidelines and 2 or 3 representative field reports or appraisals that cite distances from sewage plants. We are aware that the outdated Neighborhood Standards #6 specified a minimum isolation distance of 750 feet and we have already received a few examples that cite distances of 500 feet to one-half mile. We need your input so that we will have a broader base of information. We would appreciate your reply before March 21st so that it can be incorporated in our presentation at the USEPA public hearing on March 31, 1975. Thank you.

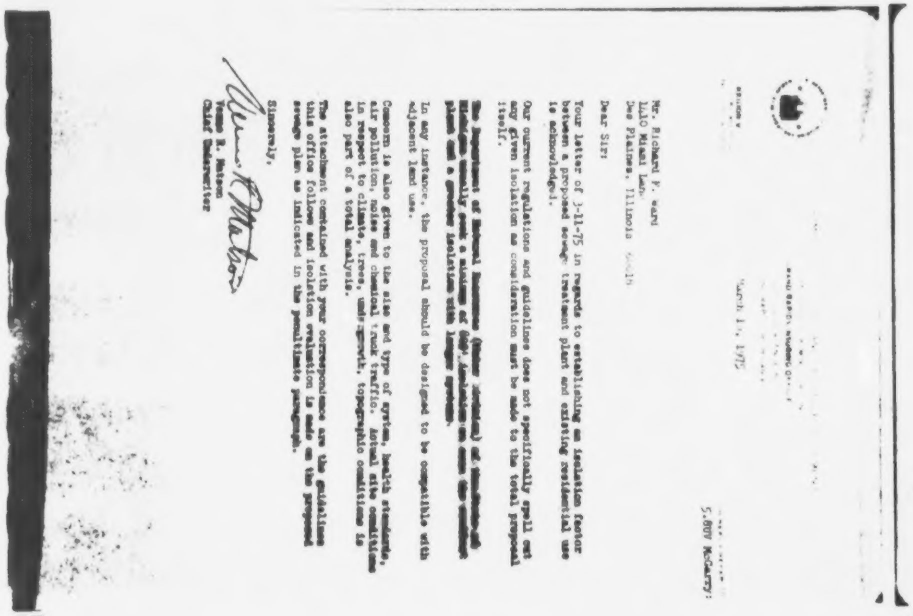
Sincerely,

Richard F. Ward

Richard F. Ward

Attachment

56



GRAND RAPIDS INSURING OFFICE

REGION V

March 13, 1975

5.8UV McGarry:

Mr. Richard F. Ward
1410 Miami Lane
Des Plaines, Illinois 60018

Dear Sir:

Your letter of 3-11-75 in regards to establishing an isolation factor between a proposed sewage treatment plant and existing residential use is acknowledged.

Our current regulations and guidelines does not specifically spell out any given isolation as consideration must be made to the total proposal itself.

The Department of Natural Resources (Water Division) of the State of Michigan usually seek a minimum of 800'. Isolation on even the smallest plant and a greater isolation with larger systems.

In any instance, the proposal should be designed to be compatible with adjacent land use.

Concern is also given to the size and type of system, health standards, air pollution, noise and chemical truck traffic. Actual site conditions in respect to climate, trees, undergrowth, topographic conditions is also part of a total analysis.

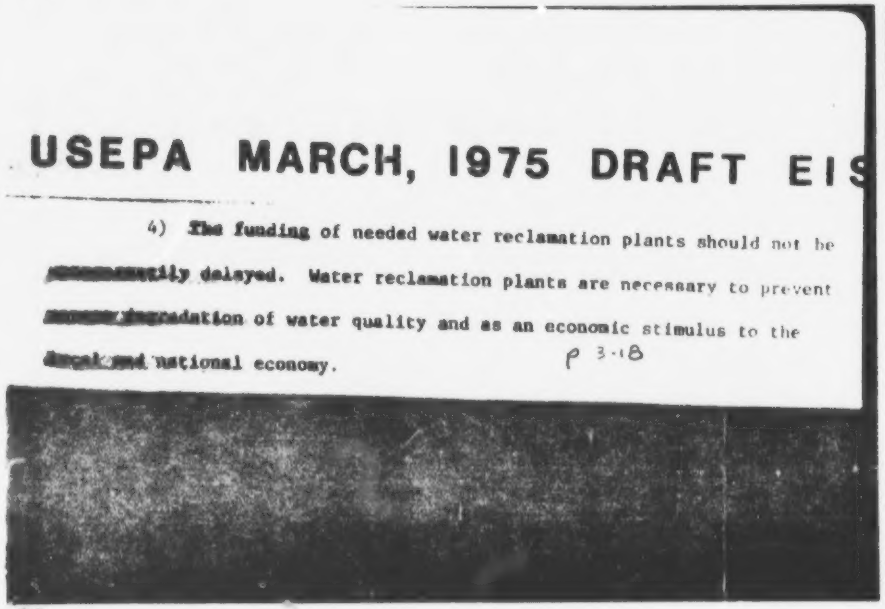
The attachment contained with your correspondence are the guidelines this office follows and isolation evaluation is made on the proposed sewage plan as indicated in the penultimate paragraph.

Sincerely,

Verne R. Matson

Verne R. Matson
Chief Underwriter

57



USEPA MARCH, 1975 DRAFT EIS

4) The funding of needed water reclamation plants should not be unnecessarily delayed. Water reclamation plants are necessary to prevent further degradation of water quality and as an economic stimulus to the local and national economy.

P 3-18

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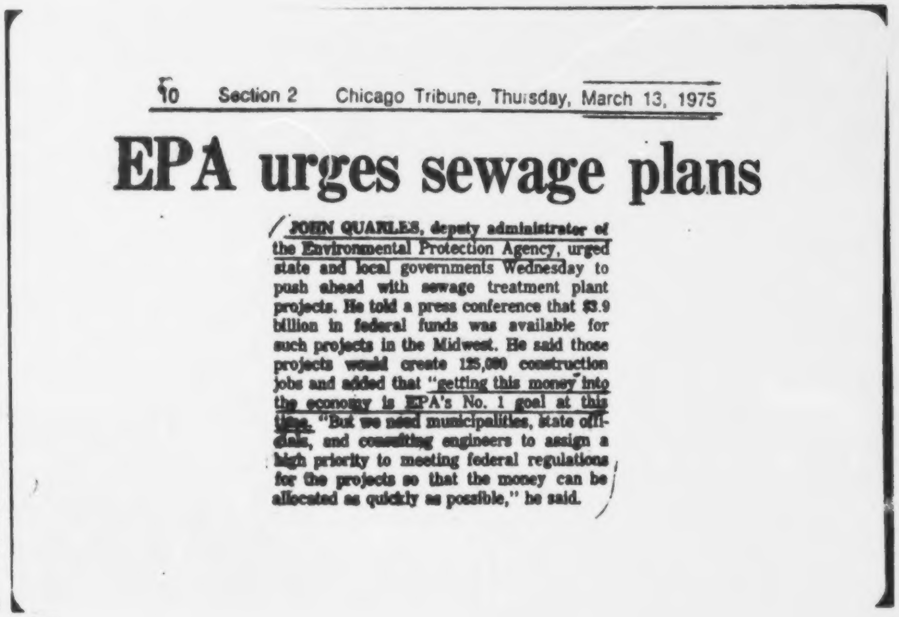

10 Section 2 Chicago Tribune, Thursday, March 13, 1975

EPA urges sewage plans

JOHN QUARLES, deputy administrator of the Environmental Protection Agency, urged state and local governments Wednesday to push ahead with sewage treatment plant projects. He told a press conference that $3.9 billion in federal funds was available for such projects in the Midwest. He said those projects would create 125,000 construction jobs and added that "getting this money into the economy is EPA's No. 1 goal at this time." "But we need municipalities, state officials, and consulting engineers to assign a high priority to meeting federal regulations for the projects so that the money can be allocated as quickly as possible," he said.

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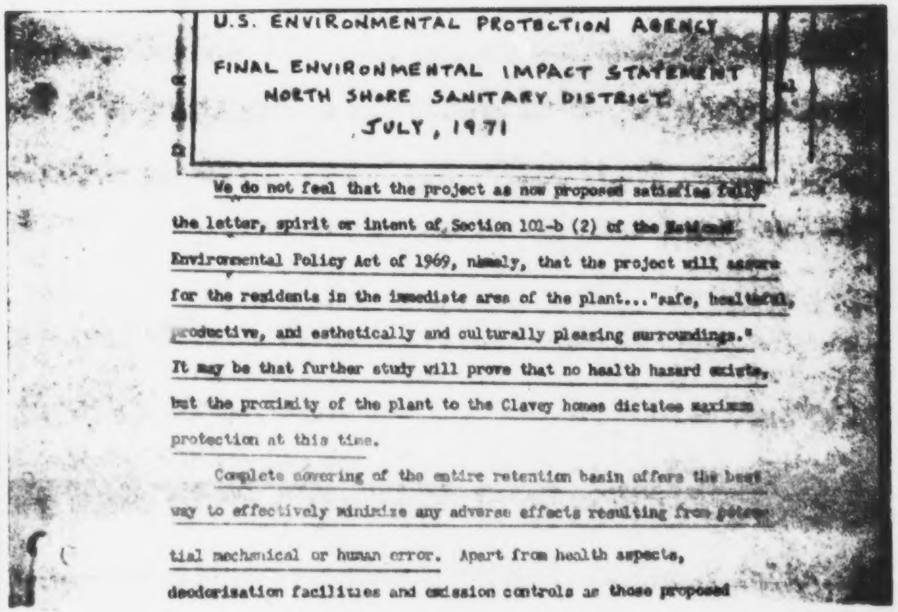

U.S. ENVIRONMENTAL PROTECTION AGENCY

FINAL ENVIRONMENTAL IMPACT STATEMENT
NORTH SHORE SANITARY DISTRICT
JULY, 1971

We do not feel that the project as now proposed satisfies fully the letter, spirit or intent of Section 101-b (2) of the National Environmental Policy Act of 1969, namely, that the project will assure for the residents in the immediate area of the plant..."safe, healthful, productive, and esthetically and culturally pleasing surroundings." It may be that further study will prove that no health hazard exists, but the proximity of the plant to the Clavey homes dictates maximum protection at this time.

Complete covering of the entire retention basin offers the best way to effectively minimize any adverse effects resulting from potential mechanical or human error. Apart from health aspects, deodorization facilities and emission controls as those proposed

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✓ (1) The O'Hare Plant will be approximately 5 times the size of the Clavey Road Plant.

✓ (2) The combined air pollution near the O'Hare Plant will be significantly greater than Clavey because of the proximity of the O'Hare flight pattern over the site, Northwest Tollway next to the site, plus the 103 acre plant and the 135 acre reservoir.

✓ (3) Based on the prevailing northwest winter wind and southwest summer wind, the downwind neighbors are only 50 yards from the O'Hare Plant and 600 yards from the O'Hare Reservoir compared to a greater distance across a golf course at Clavey Road.

✓ (4) From an environmental viewpoint, the land use of the Clavey Plant was already established when the residents built their homes near the existing plant. The stringent court-ordered and EPA required safeguards resulted from public pressure against the enlarging of the existing plant. The MSD acquired the 103 acre site in Des Plaines next to an established community. And the 135 acre reservoir site has still not been acquired. Both sites are vacant.

Some serious environmental questions must be answered when a major sewage plant and reservoir are built next to an established residential community. We are confident that your agency will work towards an equitable solution to this very difficult problem.

LETTER To MR. JACK MARCO - ILLINOIS E.P.A.
FROM DES PLAINES ALDERMAN WARD DTD. 7-3-78

RF:ra

CC: Mr. Francis T. Mayo, Regional Administrator, Federal [illegible]

NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

For Legislative History of Act, see p. 2751

PUBLIC LAW 91-190; 83 STAT. 852

[S. 1075]

An Act to establish a national policy for the environment, to provide for the establishment of a Council on Environmental Quality, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That:

TITLE I

DECLARATION OF NATIONAL ENVIRONMENTAL POLICY

Sec. 101. (a) The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, particularly the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances and recognizing further the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.

(b) In order to carry out the policy set forth in this Act, it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may—

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) [redacted]

(3) attain the widest range of beneficial uses of the environment [redacted]

Our Citizens Anticipate :

1. That the Nation will identify and fund only the most cost-effective and environmentally sound alternative within the total MSD area.

2. That the Nation will "assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings."

Reproduced from best available copy.

Response: In order to address the above testimony by Mr. Ward, we will indicate either the specific question on slide numbers to which we are responding.

The commentary related to slides #2,3,4,5 and 6 deals with the cost-effectiveness of the O'Hare WRP and the alternative of interconnection with the main TARP system. We have reviewed all the material pertinent to these comments and have completely revised the text dealing with these alternatives. A complete discussion can be found in Chapter 3, section A.

The cost-effective information referred to in slides #7 and 8 has been included in Chapter 3, section A. A determination has been made that the proposed combined sewer overflow reservoir is separable from the proposed tunnel conveyance system and water reclamation plant. This discussion can be found in Chapter 1, section E.

In reference to the comments on slides #9, and 10, we have completed our examiniation of the capacity of the proposed WRP. Our evaluation and conclusion is found in Chapter 3, section B. In addition to the above discussion, it should be pointed out that a preliminary agreement has been reached between MSDGC, IEPA and USEPA not to proceed with expansion plans for the Northside sewage treatment facility. The flow projections discussed in the commentary to slide 11 have also been examined in the above referenced portion of the EIS text.

Our response to slides 12,13,14 and 15 is discussed in the revised parts of Chapter 3, sections A&B and slide 16. This statement refers to the many documents and projections that have been made over time for the O'Hare service area. Over a period of 10 years (1965-1975) many things have changed and all documents are not updated to reflect specific parameter modifications. The statement of inconsistency was not a criticism but a statement of fact.

Slides # 17,18,19,20,21,22, MSD has re-evaluated all nine sites and redone the environmental matrix; this is found in appendix Q. Mr. Ward's graphic analysis of population patterns around site 2 are in appendix R . And is discussed in Chapter 3 section C.

Slide #23 No comment necessary

Slide 24,25,26 Appendix Q by MSD provides more detail on all nine sites including engineering, environmental, economic and energy analyses. This material supplements the revised discussion in Chapter 3 section C on site selection. Slide #27 Mr. Ward's relative population density data is an appendix R and is discussed in Chapter 3 section C.

Slides # 28 and 29

The odor and health question are discussed in Chapter 3 section C and Chapter 5 sections I and L.

Slides # 30 and 31

We have reviewed Mr. Ward's site selection matrix prior to revising our analysis of alternatives. (This matrix is found in appendix R) the purpose of this matrix is to present an evaluation of site alternatives based on 3 categories. We have recommended this matrix as suggested realing prior to following own evaluation of the site alternatives including the 3 categories identified by Mr. Ward. Our review of Mr. Ward's matrix results in the following conclusions. We disagree with the position that the WRP cannot be designed to be aesthetically pleasing at all sites. (see Chapter 3 section C).

With respect to emission control USEPA has found no evidence that indicates there is a demonstrable health hazard, however, we have decided that a conservative approach would be in the best interest of the public. We therefore are requiring that aerosol suppressive facilities be installed for the aeration tanks as discussed in Chapter 3 section C and Chapter 5 sections I and L. With respect to cost-effectiveness this has been addressed in Chapter 3 sections A and B.

Slide # 32 and # 33

This relative population analysis is in Appendix R and is addressed in Chapter 3 section C.

Slide # 34

This is not the complete text of the letter. The last part of the letter indicates that the IEPA retains the option of modifying any of the above grant conditions stated in this letter following receipt of the draft or final environmental impact statements.

Slide # 35

No comment necessary

Slide # 36 and # 37

The Clavey Road study referred to was not an epidemiological study but rather a general health survey based on one health questionnaire. Although the survey is statiscally significant there is no causal relationship established between emissions from wastewater processing equipment at Clavey Road and the eye problems reported in the survey questionnaire that asked health questions about a period of several years. To establish a causal relationship a carefully designed epidemiological study must be conducted (such as the one ongoing at MSD's Salt Creek Plant by Southwest Research Institute under sponsorship of USEPA) and coordinated with extensive monitoring (both upwind & downwind) of pathogenic aerosol content. USEPA is hopeful that this epidemiological study will provide more information relating to the potential health hazards of activated sludge wastewater treatment plants.

Slide # 38

The comment made by Mr. Ward is valid. However the question is not as clear cut as it seems. Other scientific evidence indicates that the presence of chemical pollutants in the atmosphere also may have a inhibiting effect on the bacteria and viruses transmitted with aerosols. This is discussed further in Appendix S.

Slide # 39

No comment necessary

Slide # 40

See response to slide # 34

Slide # 41, # 42

See response to slide # 30 and # 31

Slide # 43

USEPA believes that the odor control measures proposed for the O'Hare WRP will prevent odor problems from occurring. However should any odor problem develop the IEPA IPCB and the Illinois Attorney General can take appropriate action to mitigate the problem (see Chapter 5 section L.)

Slide #44

The proposed O'Hare WRP is not comparable to other existing MSD facilities because of the planned odor control measures and the lack of sludge processing facilities. See Chapter 5 section B and appendix J.

Slide # 45

The 24MGD dewatering capacity of the proposed O'Hare WRP should minimize any septic conditions in the tunnels and the odor control measures should prevent any odor problems.

Slide # 46

No comment necessary

Slide # 47

This statement has been revised as follows: the practice of land application of sewage solids minimizes pollution of air and water and can be (when property done) most compatible way to recycle a resource.

Slide # 48

No odors are anticipated under normal operating conditions, however, any biological process can be upset e.g. should heavy metals get in the sewage the activated sludge process could be upset with the possibility of odors being produced while the MSDGC has ordinances which prevent the discharging beyond concentrations of heavy materials into sewers which could cause biological upset, the possibility of this occurring cannot be totally ruled out.

Slides # 49-50-51-52

Applicable HUD guidelines do not specify isolation distances required between residences and treatment plants; however, HUD recommends the protection against possible odors by providing space between residential properties and the plant. The generally recommended isolation distance in this HUD region is 500 feet; however, both HUD (FHA) and VA have indicated that this is by no means a requirement. The isolation distance chosen is based on conditions of each specific case; since no significant odor problems are anticipated, USEPA does not foresee a conflict with the HUD general guideline of 500 feet, considering the planned odor control measures designed for the WRP.

Slides # 55-56-57

USEPA recognizes that the HUD Chicago Area Office generally accepts a buffer zone of 500 feet for mortgage insurance approval of homes near treatment plants. The"Frankfort Square" project was approved by HUD in that all homes which were part of the application for mortgage insurance to HUD were beyond 500'. Residences closer to the plant were not part of the HUD application. A chart indicating distances recommended by the 46 HUD responses received by Des Plaines in regard to their letter of 3-11-75 is included in this statement.

Slide # 58

USEPA has selected the most environmentally sound and cost-effective alternatives possible considering the critical need to implement the project so that combined sewage overflows are eliminated and that redesign delays do not excessively inflate the cost of the project. (see Chapter 3 section A,B,C, Chapter 5 section I & L and Appendix Q).

Slide # 59

No comment necessary

Slide # 60,61,62,63,64

The Clavey Road Sewage Treatment plant project was an expansion of an existing overloaded plant from 6 MGD to 18 MGD. Prior to new construction it had a history of odor problems associated with the operation of the 6 MGD facility. A comparsion between the O'Hare WRP and the Clavey Road STP cannot be made because of the many differences in design and process facilities. We believe that we have fully investigated all concerns raised by Mr. Ward resulting from siting the O'Hare WRP at all nine locations and that the recommended action of this agency does meet the letter, spirit, and intent of NEPA.

THE CITY OF DES PLAINES
COOK COUNTY, ILLINOIS

MEMBER ILLINOIS
MUNICIPAL LEAGUE

ALAN M. ABRAMS
Alderman Eighth Ward
514 WESTMERE
DES PLAINES, ILLINOIS
60016
RES. 437-6675
BUS. 297-3870

March 31, 1975

2. **Alan M. Abrams**
City of Des Plaines

STATEMENT PERTAINING TO DRAFT ENVIRONMENTAL IMPACT STATEMENT OF THE METROPOLITAN SANITARY DISTRICT CHICAGO-DES PLAINES O'HARE RECLAMATION PLANT

By: Alan M. Abrams
Alderman 8th Ward
City of Des Plaines
514 Westmere Road
Des Plaines, Illinois

The City of Des Plaines has authorized us to comment on the draft environmental impact statement.

The basic position of the City may be summarized as follows:

1. The plant is not ecologically or socially acceptable as now proposed.
2. The draft environmental impact statement is not adequate in evaluating the environmental effects of the proposed plant in that it fails to adequately consider and properly evaluate the following:
    a. The public health risks associated with pathogenic air-borne emissions from such plant;
    b. the combined effect of such emissions upon a large human population now presently subject to extremely poor ambient air quality due to pollution from O'Hare International Airport;

c. alternatives to the proposed plant in terms of

   (1) alternate plant sites; and/or

   (2) treatment of emissions from the plant to eliminate odor and pathogenic emissions.

3. If such factors had been adequately evaluated and considered, the EPA, of necessity, would have concluded that the proposed plant is environmentally unsound.

II. PERSPECTIVE

To bring this hearing into perspective, we are commenting here effectively under the auspices of the National Environmental Policy Act of 1969. Under that Act, when a Federal agency proposes any project which has a major effect upon the environment, such agency must prepare an environmental impact statement. A basic mandate of such Act is the recognition by Congress that "each person should enjoy a healthful environment", and further that any Federal Action must "attain the widest range of beneficial uses of the environment without degradation, risk to health or safety or other undesirable and unintended consequenses." Under the regulations promulgated pursuant to that Act by the Council on Environmental Quality the agency involved should conduct a "rigorous" exploration of all environmental matters including threats to health by the proposed action.

We submit that the draft environmental impact statement as now proposed by the EPA totally fails to meet the mandate and the objectives of the National Environmental Policy Act as well as the regulations promulgated thereunder by the Council on Environmental Quality.

As indicated in our prior testimony, the Metropolitan Sanitary District in preparing its environmental assessment totally failed to adequately evaluate the environmental impact of the proposed plant in respect to:

1. The ambient air quality in the proposed plant site area;

2. The dangers to public health resulting from air-borne pathogenic emissions and bacteria from the plant;

3. The combined effect of such pathogenic emissions and the already existing seriously deteriorated ambient air quality at the proposed plant site.

During the hearings on the environmental assessment prepared by the Metropolitan Sanitary District, various citizens, microbiological experts and the City of Des Plaines did present evidence on these critical issues. Such testimony, moreover, did clearly establish that:

1. There are serious potential dangers to the public health due to pathogenic emissions from sanitary treatment plants;

2. The present ambient air quality at the proposed plant site is adversely and seriously affected by aircraft emissions from O'Hare Airport; and

3. There are reasonable alternatives readily available for the plant in terms of

   a. alternate plant sites; and/or

   b. treatment of emissions from the plant to control odors and pathogenic emissions.

Notwithstanding this clear and convincing evidence presented on these critical environmental issues, the Environmental Protection Agency has basically chosen to either ignore this evidence or, when considered in part,to conclude that such evidence does not conclusively show the existence of any serious public health hazards.

We submit that this is in conflict with both the letter and spirit of the National Environmental Policy Act of 1969.

III. REVIEW OF POSITION OF EPA ON CRITICAL ENVIRONMENTAL FACTORS

A. Ambient Air Quality at Proposed Plant Site

The Metropolitan Sanitary District in its Environmental Assessment, as we previously testified, grossly misrepresented the quality of air at the proposed plant site.

In contrast, we presented data from a study conducted by the Argonne National Laboratories which clearly indicated that the ambient air quality at the proposed plant site was already under an extreme environmental impact primarily due to aircraft emissions from O'Hare Airport.

The Environmental Protection Agency apparently agrees with this position but then chooses simply to ignore the data and generally dismisses it as of absolutely no consequence. For example, the Argonne data as presented by us and the EPA comments relative thereto are as follows:

1. Particulate Matter

The Argonne study indicated levels outside O'Hare as high as 180 micrograms per cubic meter and inside as high as 240 micrograms per cubic meter and further that "if such levels persist throughout the year then the level would exceed the National Ambient Air Quality Standards promulgated under the Clean Air Act of 1967 as amended." The EPA agrees and indicated "It does appear, however, that samples taken close to airport sources generally violate standards but that concentrations of particulate matter decrease with increasing distance from the airport."

2. Nitrogen Oxides

The Argonne study indicated nitrogen oxide levels as high as 209 and 440 micrograms per cubic meter at positions near the proposed plant site. In respect to nitrogen oxides the EPA concluded that "It is very common in certain areas spot samples will result in readings which greatly exceed the hourly standards," that is the Federal Ambient Air Quality Standards.

3. Total Hydrocarbons

The Argonne study indicated that total hydrocarbon levels were as high as 1970 micrograms per cubic meter and as high as 2130 micrograms per cubic meter in areas near the proposed plant site. As further indicated by the EPA in reference to the Argonne Study, the hydrocarbons from the aircraft emissions may contain a substantial portion of reactive hydrocarbons which are known contributors of photochemical smog.

These levels of pollutants range from 3 to 14 times the National Ambient Air Quality Standards and clearly demonstrate that the quality of the air at the proposed plant site is extremely contaminated. Moreover, these standards were established at levels necessary to protect the public health. Ironically, it is the EPA which has the primary jurisdiction to establish these national air quality standards. Apparently in considering the proposed plant the EPA is simply ignoring the standards which the Agency itself has set as being necessary to protect the public health. In conclusion, the EPA states:

> "In general, it appears that air quality in the vicinity of the project site is severely degraded because of the proximity to O'Hare Airport. While comprehensive sampling indicates that the standards for some pollutants are not violated, spot sampling would certainly indicate a noticeable degradation of the air quality in the area."

We are, of course, vitally interested in the plant vicinity. Moreover, we submit again that such site is under an extreme environmental impact due to pollutants from O'Hare aircraft. As we previously testified, the proposed plant site is directly under the approach path to runway 32R-14L, one of the airport's busiest runways. Further, as discussed by the Argonne personnel, the exhaust plume trailing a landing jet aircraft is visible at ground level over a distance of one to two miles from the end of the runway. Thus aircraft landing on runway 14L will leave a jet engine exhaust plume of high pollution levels extending from one to two miles from the end of runway 14L and therefore directly into and onto the area of the proposed plant site. The EPA also recognizes this fact in the draft statement and indicates that the exhaust plumes increase the atmospheric pall in the airport vicinity. These exhaust plumes, however, do more than simply create an atmospheric pall. They contain high levels of pollutants such as unburned jet engine fuel, nitrogen oxides, hydrocarbons and particulate matter. It is these contaminates in these extremely high levels which settle directly upon the proposed plant site as aircraft arrive and depart from runway 32R-14L.

B. Health Hazards Created by Odors and Air-borne Pathogens Created by Sanitary Treatment Plants

The EPA generally concluded that there is no specific evidence indicating that air-borne pathogens created by a sanitary treatment plant will, in fact, cause a serious public health problem. The EPA does, of course, recognize the opinion of various experts that there is a potential danger from such air-borne emissions but simply concluded that in the absence of specific data of illness or health problems the Agency will take a wait and see attitude as follows:

> "In summary, it can be seen that there are innumerable factors which control the viability and infection potential of micro-organisms commonly found in wastewater aerosols. To conclude that the presence of these aerosols will positively result in a public health hazard is not supported by scientific evidence. Conversely, it has not been proven that there is no possibility that such aerosols have any public health impact. There is simply no epidemiological data available, of which we are aware, that would indicate any public health impacts whatsoever. Given this tremendous gap in evidence, we cannot, at this time, conclude that the aerosols generated at the O'Hare Water Reclamation Plant will have any significant adverse impact. This is by no means a closed case. Should such evidence become available, we would find it imperative to require mitigative remedies necessary to eliminate any public health hazard as well as implement compliance with any law applicable."

In arriving at this position the EPA presumedly based its conclusion in part upon a survey of several experts. The conclusions of these experts are reported in the draft statement. Our reading of these statements convinces us that a serious public health hazard does exist. For example, Dr. Hutton D. Slade, a noted expert in microbiology, indicates that there is a definite potential health hazard associated with the proposed O'Hare plant. Dr. G.E. Quan of Northwestern University agrees that a potential health hazard does exist but, as also indicated by Dr. Love of the EPA staff, little is known about the extent of the potential health hazard. Also Robert Brunch of the EPA further indicated that:

> "The literature is replete in documenting the potential hazards of aerosolized sewage organisms."

In responding to this critical environmental question of pathogenic aerosol emissions, the Sanitary District presented a position paper which in effect concludes that there is no health hazard. The conclusion is mainly based upon the District's argument that certain studies of sewage treatment workers has not revealed any increase in health risks associated with operating such plants. This, of course, is factually untrue. As indicated by Lelan J. McCabe of the EPA, there are studies which indicate that sewage treatment plant workers had higher rates of leptospirois and infectious hepatitis than the general public. The EPA further indicated in reference to the District's conclusions that certain medical experts believe that the possible lower illness rate of sanitary treatment plant workers may be due to a gradual immunization of such workers over a lengthy period of time.

In reference to these studies pertaining to sewage treatment plant workers we submit that quite likely none of these studies were conducted in an environment such as that which now exists at the proposed plant site where the ambient air is substantially polluted and contains levels of pollutants which substantially exceed the standards now set by the Federal Government to protect the public health.

Even more significant in this respect is the fact that we are not here primarily concerned with the potential adverse health effects upon the average, healthy worker employed at treatment plants. Rather we are vitally concerned here with the impact of the pathogenic emissions from the plant upon those most susceptible to illness, namely the newborn, the aged, asthmatics and the young and aged with heart and lung diseases. These are the individuals of our concern. These individuals unlike sewage treatment plant workers will be living in the plant environment 24 hours a day, 7 days a week, 30 days a month, 365 days a year. These individuals, moreover, will be living near the plant in an ambient atmosphere which already, according to Federal Ambient Air Quality Standards, is not suitable or adequate to protect the public health.

In this respect and as we previously testified in reference to the statements of Dr. Bernard Carnow, a noted expert in air pollution, and as reported in the Chicago Tribune on January 10, 1971:

> "Death by air pollution doesn't strike like a bullet, it is slow like poison. It strikes the weakest people - babies, infants, asthmatics, the aged with heart and lung disease."

This is the same Dr. Carnow who previously testified for the final environmental impact statement pertaining to the North Shore Sanitary District, Clavy Road Plant, that the combination of air-borne viruses and bacteria generated by sanitary treatment plants together with atmospheric pollutions and irritations such as nitrogen oxide, sulfur oxide and particulants will likely reduce the resistance of humans to illness.

It is readily apparent that no one can predict with total and absolute certainty that if the plant is constructed whether the substantial quantities of air-borne pathogens emitted into the heavily polluted atmosphere near the plant will result in serious illness or death. However, a total certainty of serious health problems has never been an essential prerequisite in formulating public health or environmental policies. Rather governmental action has always and correctly been predicated upon the existence of potential dangers. For example, the Eighth Circuit Court of Appeals, in the recent case involving Reserve Mining pertaining to the generation of abestos fibers into Lake Superior and into the air, stated in summing up the health issues:

> "It cannot be forecast that the rates of cancer will increase when drinking Lake Superior water or breathing Silver Bay air. The best that can be said is that the existence of this abestos contaminant in the air and water gives rise to a reasonable medical concern for the public health. The public's exposure to abestos fibers in the air and water creates some health risks. Such a contaminant should be removed."

Thus our environmental laws and their implementation have universally recognized this basic principle in public health matters that there need not be absolute and predictable results, only that there be recognized risks. The record here clearly shows such risk. There is a serious and recognized potential health problem associated with air-borne pathogens from treatment plants and when emitted into an atmosphere already under severe environmental pollution the risk for the humans in this area is manifestly clear. The imposition of such risk upon the people living in this area is, moreover, contrary to the mandates of the Environmental Policy Act of 1969 which insure for every American a healthful environment free of risks to health.

The EPA should, therefore, reconsider its conclusions in reference to the proposed plant and direct the Metropolitan Sanitary District either to relocate the plant to a site more remote to a large human population or more appropriately to redesign the plant so that all emissions are collected and treated prior to atmospheric release so as to eliminate odors and pathogenic bacteria.

Alan M Abrams

Alan M. Abrams

Response: Several comments were made by Alderman Abrams about our interpretation of the Argonne air quality data. He believe we have made a fair interpretation of the data and will respond to each area of concern.

With respect to particulate matter, we do not agree with Mr. Abrams interpretation of the Argonne Study. The data presented in the Argonne Study cannot be directly compared to the National Ambient Air Quality Standards since the sampling periods are not identical. First of all the primary national ambient air quality standard is an annual average no greater than 75 mg/m^3. No annual average data was presented in the Argonne Study. Data from other sources did indicate that the primary standard was not violated. The standards also require a 24-hour maximum no greater than 260 mg/m^3. Samples on airport property indicate that 100% of the 24-hour values obtained were 240 mg/m^3 or less while 100% of the 24-hour samples outside the airport were 180 mg/m^3 or less.

We do agree that the hourly standard is violated with some spot samples, but the great variability in data also indicates that these levels are found only in very isolated areas of the airport grounds where there is the greatest vehicle concentration. It should be pointed out that annual average are well within the standards.

Our conclusion indicated that while the air was noticeably degraded in the project area, standards were not always violated. It is not necessarily valid to assume that the air quality present on the airport site itself is identical to that at the site of the proposed WRP. Furthermore, we do not feel sufficient data exists to draw any conclusions about synergistic effects of air pollutants and any aerosols generated from the WRP. There have been some studies in this area and these were discussed in Chapter 5 of the Draft EIS and in Appendix S of this EIS.

Mr. Abrams also contends that we failed to recognize the input we received which indicated that there was a potential public health hazard from aerosol-transmitted organisms. Although there is no demostrable evidence that indicates any health hazard exists from aerosol transmission USEPA has decided a conservative approach would be in the best interest of the public. We therefore are requiring that aerosol suppressive facilities be installed for the aeration tanks as discussed in Chapter 3, Section C, and Chapter 5 sections I and L.

3. Charles Willis, Village Manager
Village of Elk Grove Village

Mr. Willis presented a chronology of interest by Elk Grove Village in the O'Hare water reclamation plant. A copy of this chronology is included in section D of this chapter.

4. Bernard Hemmeter, Director of Engineering
Village of Mount Prospect

Mr. Hemmeter presented a resolution urging the MSDGC to proceed with the tunnel conveyance system and water reclamation plant. It is reporduced in Section D of this Chapter.

5. Edward Edgenlerg, Jr.
(appearing for the MSDGC)

Mr. Edgenlerg indicated that the proposed odor control measures proposed for the O'Hare WRP are over and above those generally included in treatment plant design.

6. Otis J. Sproul
(appearing for the MSDGC)

Mr. Sproul stated that on the basis of his experience in viral research, review of the MSDGC plans, and review of pertinent literature on the subject, it is his conclusion that there has been no receorded instance of infection or disease resulting from people being in the general proximity of wastewater treatment plants.

7. Heinz P. Zupke

Comments: (See following page)

Gentlemen!

Over the past years testimony has been given by experts who contended that the proposed treatment facility should not be built at it's present location, but if no other site was availble that the design should be changed. As a lay person and homeowner I can only judge through things presented by the news media. Recent articles indicate that the prime concern of the MSD is allocation of available federal funds without regard to the health and welfare of the residents of the neighborhood affected by the proposed treatment plant.

On March 11, 1975 in the 9AM newscast on WGN Radio it was announced that no more treated and deodorized sludge should be shipped to Fulton County because it smells. This statement was made by the Illinois EPA.

My question is this: If treated and deodorized sludge gets to be objectionable why cant't precautions be taken that the untreated sewage does not develop into not only something objectionble. In addition not only should objectionable odors concern you, but also the potential hazard for the residents of our area.

Either move the facility or cover it. Most of all restore some of our faith in government by proving to us that our testimony means something and that our concerns are really listened to.

Heinz P. Zupke
670 West Elizabeth Lane
Des Plaines, Illinois

Response: Our discussion of the potential odor problems at the O'Hare WRP can be found in Chapter 5. Many of the odor producing processes at the proposed facility will be enclosed and the ventilated air treated through ozonization before release to the atmosphere. All sludge handling processes will occur at the John E. Egan WRP.

8. Hugh McMillan
MSDGC

Mr. McMillan referenced our concern regarding the cost-effectiveness of constructing a 72 MGD facility. He directed our attention to attachment C for the final environmental assessment documents. Our discussion of this issue can be found in Chapter 3, section B.

9. Alan M. Abrams, Alderman
City of Des Plaines

The following statement was made by Alderman Abrams at the March 31, 1975 public hearing.

10. Charles Bolek, Alderman
City of Des Plaines

Mr. Bolek presented a brief summary of the events which led to the MSDGC's purchase of site 1 in 1966. The acquisition of site 1 occurred shortly after MSDGC officials met with officials from the City of Des Plaines to look at alternative sites and discussion the City's objections to site 1.

11. Spencer Chase, Alderman
City of Des Plaines

Mr. Chase acknowledged the amount and quality of work performed by Alderman Ward and Alderman Abrams on the project. He reiterated the consistent and unanimous support from the City Council over the years.

12. Frank Palmatier
Village of Arlington Heights

Mr. Palmatier presented a statement on behalf of the Village supporting the tunnel conveyance system and water reclamation plant. This statement is reproduced in section D of this Chapter.

13. Howard DiDoMenico

Mr. DiDoMenico indicated that Mr. Vinton Bacon (former General Superintendent of the MSDGC) was opposed to site 1. He expressed his concern for the health of his family and his opposition to the construction of the WRP at site 1.

14. Donald Dvorak

Mr. Dvorak's statement concerned the need for the construction of the O'Hare water reclamation plant. He feels that the North Side Plant can adequately handle day weather flows indefinitely and that the only problem would occur in wet weather. He suggests that this could be resolved by interconnecting the Des Plaines - O'Hare tunnel conveyance system with the main TARP system.

Response: Sections A and B of Chapter 3 have been revised to reflect the concerns expressed above.

15. Daniel Dudych

Mr. Dudych indicated his concern for the air quality of the area and, in particular the effect of the combined impact of the WRP and the already degraded air quality.

Response: These concerns, as well as recommended mitigative measures, are discussed in Section B of Chapter 5.

16. Ed Zych

Mr. Zych inquired about the impact of the proposed project on his family and property value.

Response: Chapter 5, Section B and C, discuss the impacts of the proposed project on air quality and land use, including a specific discussion of the effect on property values.

17. Richard Harwood
Home Builders Association of Chicago

Mr. Harwood read a statement supporting the construction of the O'Hare Water Reclamation Plant and the tunnel conveyance system.

18. Jeff Ketelsen

Mr. Ketelsen expressed the concern of his school for the wildlife present on the proposed WRP site.

Response: USEPA contacted the Cook County Forest Preserve District concerning the possibility of relocating some of the rabbit population on the proposed site to the Ned Brown Forest Preserve. They indicated that this would probably be unnecessary as they could easily adapt to urban situations and because other suitable habitat was available in the area.

19. **Raymond Miller**

Mr. Miller emphasized the need for the proposed projects, because of the basements in the area being flooded, but suggested that another site be found for the proposed treatment facility.

Response: There are many factors which need to be considered in the selection of alternate sites including the critical need to proceed with a project. This discussion is found in Section C of Chapter 3.

B. Written Statements

1. Richard F. Ward
Commenting for the City of Des Plaines

Mr. Ward submitted his comments on April 21, 1975. His submittal consisted of six sections and we will address each of these individually.

a. December 19, 1974 Public Hearing Testimony

This section is actually a resubmittal of the testimony Mr. Ward presented at a public hearing held by the MSDGC on the Environmental Assessment for the proposed Des Plaines - O'Hare projects. The MSDGC has responded to this testimony in three public hearing documents submitted to this Agency on February 5, 1975. They have also advised us that these documents are available in the Des Plaines Public Library. Mr. Ward feels that the MSDGC has not responded to all his comments made at the hearing. While we do not agree that their response was incomplete, we must also point out that many of his issues are repeated in later testimony and therefore have been addressed by this Agency either in the EIS itself or in the following comments.

b. December 27, 1974 Written Comments

As we indicated above these issues have been addressed by the MSDGC. Again we must point out that the major issues raised by Mr. Ward have been dealt with in the text of this EIS and in this Chapter.

c. January 1975 to March 1975 Correspondence

The above correspondence was reviewed in the preparation of the Draft and Final EIS. Wherever necessary we responded directly to Mr. Ward or have taken his submitted materials into consideration in the formulation of our decision.

d. March 31, 1975 Public Hearing Testimony

Our response to Mr. Ward's testimony can be found in Section A of this Chapter.

e. April 21, 1975 Written Comments

The additional comments submitted by Mr. Ward are reproduced on the following pages. We have numbered his comments and our responses will be numbered to correspond with his individual comments.

THE CITY OF DES PLAINES
COOK COUNTY, ILLINOIS

MEMBER ILLINOIS
MUNICIPAL LEAGUE

RICHARD F. WARD
Alderman 8th Ward
1410 Miami Lane
Des Plaines, Illinois 60018
(AC 312) 827-8715

ADDITIONAL CITY OF DES PLAINES TESTIMONY

BY R. F. WARD DATED APRIL 21, 1975

The following comments are in addition to our oral and slide testimony presented at the USEPA public hearing on March 31, 1975. It contains several major items such as Pages:

ii
iii
1-9
1-10
1-12
2-26
3-43
5-15
5-16
5-17
5-21
5-23
5-25
5-32
7-1
7-7
A-15
B-1
D-47
I-9
K-4
N-14
O-1

and many minor items that were not presented at the public hearing because of the time limitations imposed. The order of this additional testimony is from the front cover to the back cover of the March, 1975 O'Hare plant draft Environmental Impact Statement (EIS) dated March, 1975. As was mentioned in the introduction to our oral testimony, "we will be detailing omissions, contradictions, unsubstantiated and incorrect statements" in your draft EIS and supporting documents in an attempt to insure environmentally sound and cost-effective conclusions in the final EIS.

1. page ii (B, 1, a) "Occasional odors may be detected from the proposed WRP." How frequent measured in days per month? From where, if all potential sources of odors are covered? As mentioned in previous testimony, aeration tanks and settling tanks may also be sources of odors.

2. page ii (Blb) "Aeration tanks will generate a limited quantity of aerosols containing bacteria and virus particles." How will the quantity be limited? What is USEPA's best

estimate of the maximum number of viable particles that will be emitted to the Des Plaines atmosphere under the most adverse conditions? Under these adverse conditions, how many particles per breath will our children inhale at the fence line of the plant? What percent degradation from the upwind ambient air quality will be caused by the aerosols from the proposed sewage plant under the average and most adverse conditions?

3. page ii (Blb cont.) "There is no demonstratable health hazard associated with these aerosols." Why was the Clavey Eye Irritation Study omitted from consideration in the draft EIS after it had been submitted to the Illinois Pollution Control Board on December 9, 1974 and the USEPA on December 19 and 27, 1974? We must assume that the Clavey Study was omitted to justify the USEPA draft conclusions.

4. page iii (2a) "The effluent flow in the design year is projected to be 72 MGD." By whom? Other projections have been given as low as 40 MGD by various reviewers including Des Plaines starting with the actual flow of 30 MGD in 1970 from a population of 223,000. There is more discussion of this subject in the Section III letters as well as later in this section.

5. page iii (4A) "Alternatives Considered - Nine site locations for the WRP." The USEPA omitted considering the 3 sites that were the first choice of the MSD in their June, 1964 study. The USEPA was made aware of these sites in Attachment #11 to Des Plaines 12/27/74 Comments. All three sites are still undeveloped and partially owned by the MSD or Chicago. Why were they omitted from consideration?

6. page iii The most significant alternative that was omitted from MSD or USEPA consideration is the most cost-effective and environmentally sound option of utilizing the increased collection capacity and flow equalization capabilities of the proposed Tunnel and Reservior Plan. Possibly there is a message in the March 12, 1975 statement by USEPA

Deputy Administrator John Quarles that "getting this money into the economy is EPA's No. 1 goal at this time." (Chicago Tribune, 3-13-75). Des Plaines officials and others have contended that this Nation could save over $100 million by examining the "cost-effective calculations" that were edited out of the rough draft of the EIS. It seems reasonable to expect that getting the money into the economy in a cost-effective and environmentally acceptable manner should be EPA's No. 1 goal.

7. page iv USEPA acknowledges that portions of the draft EIS were taken directly from the November, 1974 Environmental Assessment prepared by the MSD. The USEPA should state that it accepts the responsibility for the accuracy of those portions taken from the EA.

8. page 1-1 Does the USEPA accept the responsibility for the accuracy of the draft EIS statement, "The projected average dry weather flow by the year 2000 is 72 MGD"?

9. figure 1-1 The outlined area is inaccurately described as the "Upper Des Plaines Drainage Basin". This is a proposed service area that the MSD desires to create without the justification of cost-effective calculations.

10. page 1-6 "During wet weather, the North Side sewage treatment plant is presently overloaded and existing interceptors are approaching capacity." This is an unsubstantiated statement that may not be considering the capacity of the Salt Creek plant or the planned 104 MGD expansion of the Northside plant.

11. page 1-9 "Prior to the issuance of a draft EIS in November 1972 an Environmental Assessment (EA) on the TARP program was prepared." The draft EIS was issued in 1973, not 1972 and by the applicant (MSD) and not by a federal agency -- therefore, it may be misleading to call it a draft EIS. Does the USEPA concur? Also, why has a draft and/or final EIS not been published on the TARP system as of now? It is impossible to examine the O'Hare "Service Area" until the reviewing agencies

have examined the interrelationship with the total Facility Plan. Quite obviously this has not been accomplished and this may be the reason why the cost-effective calculations that justify creating the O'Hare service area have been omitted.

12. page 1-9 "A public hearing on the TARP EA was held July 26, 1973, and discussion was presented." The records indicate that this was called as a meeting and not a hearing. Also the required 30 days notice for a "hearing" was not given to the public. The purpose of the meeting was to present TARP alternatives and several speakers were invited in addition to the MSD staff. The testimony that this reviewer offered was uninvited and unexpected.

13. page 1-10 This is one of the most important pages in the entire draft EIS. It reveals that "other engineering studies" (not referenced) justify the creation of the O'Hare service area and plant. This is the section where the references to "cost-effective calculations" were eliminated from the published draft EIS either because they did not exist or because they did not justify creating the service area. A logical and factual discussion in the final EIS is absolutely essential for the public trust to be restored in the environmental review process. The second paragraph on page 1-10 is equally revealing -- "The O'Hare Service Area can be separated from TARP" -- but should it be? The last sentence reveals that the USEPA really does not know what should be done in relation to the $3.3 billion TARP system. That is a very honest but sad admission. Unfortunately the federal courts and the President's Council on Environmental Quality may not be sympathetic to the regional draft findings.

14. page 1-12 Reference to January 20, 1975 MSD answer to USEPA December 23, 1974 questions is missing. Also, January 29, 1975 follow-up questions from USEPA to MSD is missing. Also February 3, 1975 follow-up answers by MSD to USEPA is missing. Why? Besides dealing with a number of relatively important subjects

this series of letters contain the core of the 10 year controversy: the MSD's environmental justification for the Oakton-Elmhurst site. This exchange between the applicant (MSD) and the USEPA is a classic example of the political arrogance and moral integrity of the MSD and the utter frustration of the USEPA staff. The USEPA staff caved in under this historical MSD tactic possibly because the staff may not have had the backing of their superiors.

For those of you reading these comments that have been denied the MSD's January 20, 1975 site evaluation, copies have been included on the following pages for your reference. Using the same MSD sites and environmental factors, we will reconstruct the matrix and the USEPA is requested to comment on both versions in the final EIS. We agree that the water quality will be the same at all six sites. Regarding air quality, sites 1 and 3 are both upwind from substantial residential populations. Sites 4, 5 and 6 would be relatively isolated (3,000 people now live on site 4 but would have to be relocated, which of course should not even be considered). Site 2 falls between 1 and 3 and 4, 5 and 6 in terms of relative isolation. The noise and visual effect would be the same on all sites. The flood potential of each site is seen on page 2-22 of the draft EIS. Sites 1 and 2 are in the 100 year flood area. Site 6 would partially be flooded and sites 3, 4 and 5 are not flood prone. Please note the different site numbering system by the MSD and USEPA. Using the same sites and factors the matrix should look like this:

MSD Site #	1	2	3	4	5	6
Water	+1	+1	+1	+1	+1	+1
Air	-1	0	-1	+1	+1	+1
Noise	0	0	0	0	0	0
Visual Effect	0	0	0	0	0	0
Flood Potential	-1	-1	+1	+1	+1	0
	-1	0	+1	+3	+3	+2

Can anyone reading this imagine what would have been the USEPA "findings" if the MSD had honestly prepared the environmental site matrix. The USEPA staff was on the right track in requesting the matrix but they lacked the fortitude and the time and the support to insist on honesty. However, this reviewer has the fortitude, the time and the support and as we have insisted on honesty for the last 10 years, we will continue to demand honesty into the future.

15. page 1-12 "February 6, 1975 USEPA received Revised Environmental Assessment and Responses of the MSDGC to Public comments". Another tactic frequently used by the MSD is denying requests for documents during the environmental review process because of pending litigation. The federal authorities are responsible for finding a solution to this tactic which short-circuits the review process. Even though the Facility Plan Documents were requested early in January when no litigation was pending, the City of Des Plaines did not obtain these documents until the end of March. Even the Illinois EPA did not receive the Revised EA as of the public hearing March 31, 1975. As this review is being written on April 11, 1975 I have still not received a copy of the Revised EA. If there was not so much at stake for our community, we too might have become utterly frustrated as the MSD desires.

16. page 2-1 "The area is 60% developed...The 1970 population for the area was 223,000." As page 1-5 indicated 5,000 acres (13%) of the 37,250 acres are expected to remain undeveloped. If the 60% = 223,000 = 30 MGD = 1970 then the remaining 27% development will result in 13.5 MGD additional flow in the service area or an ultimate average dry weather flow of 43.5 MGD. The ultimate development of the area will occur sometime after the year 2030. Therefore this is a further correlation that our 40 MGD estimate for the design year 2000 is reasonable.

17. page 2-4 This figure confirms that the Devonshire/Waycinden area is downwind from both sites 1 and 2.

18. page 2-23 Note the location of the "combined overflow reservoir". Federal Regulations require the combined impact of related components to be considered. If the reservoir is to be retained in this EIS, then the plant cannot be considered alone. The USEPA is requested to address this aspect of their regulations in the final EIS.

19. page 2-25 Particulate matter standards are currently being violated.

20. page 2-25 The highest nitrogen oxide levels were obtained... near the ends of runways 14R and 14L.

21. page 2-26 "Total hydrocarbon levels...(west of site 1) ranged from 1535 $\mu g/m^3$ to 2100 $\mu g/m^3$." "The maximum standard for a 3 hour period, which is not to be exceeded more than once per year is 160 $\mu g/m^3$."

22. page 2-26 "In general, it appears that air quality in the vicinity of the project sites is severely degraded because of the proximity to O'Hare Airport." The draft EIS discussion stops at that point. Again the omission of inputs by Dr. Carnow and Dr. Rogoff were necessary in order to justify the site 1 favorable findings. In the final EIS, we expect that the USEPA will discuss the effect chemically polluted air has on the probability of infection from microbial contamination.

23. page 2-29 "Other Programs in the Area" possibly should include the combined sewage reservoir.

24. page 3-10 Why is the word contiguous omitted from the reference to the MSD 1965-66 site criteria of 100 acres?

25. page 3-11 The plant can be accommodated on a 40 acre rectangular plot -- not 65 acres as the draft EIS states.

26. page 3-11 Why is an "adequate buffer zone for aesthetic reasons" needed if the USEPA has found that the plant will be attractive and there will be no odor or health related problems? This is an apparent contradiction.

27. page 3-11 In addition to "the tollway on the south", 3000 people also live there (on site 4).

28. page 3-13 Why would site 2 require 500 to 1500 feet of 7 foot diameter influent sewer to dewater the 20 foot tunnel

that ends on that site? Also why should site 1 only require 600 - 700 feet of influent sewer? How large is site 2?

29. page 3-13 In 1966 the airport authority said 3 other sites were not available, not site 3. Please refer to Des Plaines 12/27/74 Attachment #11. Also site 3 was not recently considered for a stormwater retention reservoir as the draft EIS incorrectly states.

30. page 3-14 What is the current value of the industrial building under construction on site 5? Is that sufficient reason for the site being eliminated? How large is site 5?

31. page 3-14 How large is site 6 and what is the value of the buildings on that site?

32. page 3-15 Please state reference to draft EIS conclusion that "WRP on Site #7 may cause a safety hazard to aircraft".

33. page 3-15 If site 8 is for sale as the letter in the USEPA files indicates, why was the site downgraded because the "MSDGC does not have the powers of eminent domain?"

34. page 3-16 "Since all of the sites considered, except site 3 are within areas zoned for light industry, the plant is visually well suited for placement in any of the sites considered." Sites 4 and 7 are also not zoned for light industry.

35. page 3-17 Sites 3 and 8 were eliminated because of unknown availability and/or undetermined acceptance. These are not reasons, they are excuses. Because the site question has been the central issue for 10 years the USEPA could have at least solicited letters from Chicago and DuPage stating they were opposed to a sewage plant on those sites. Of course, possibly DuPage may not have been able to find a reason to refuse the plant and then the June 30, 1975 deadline may have been exceeded.

36. page 3-18 "The proposed Water Reclamation Plant appears to be adequately designed." We desire a stronger assurance

that the plant has been designed to the highest standards.

37. page 3-20 The responses to the questionnaire in Appendix D are referred to but there is no discussion that indicates that 5 of the 8 responses indicated a potential health hazard would exist. A composite of the responses would be desirable.

38. page 3-21 If the USEPA really believes that there is no health hazard and no odor problem then the location is irrelevant and the alternate site question should not have even been discussed in the draft EIS. USEPA please comment.

39. page 3-21 The present 150 foot buffer zone would have been 300 feet if Wille Road had been vacated. The 300 foot number from the 1968 Brown and Caldwell report should be incorporated into the final EIS.

40. page 3-29 The MSD 1990 assumption of a total flow of 2118 MGD and a service population of 5,770,000 equals 367 gallons per day per capita which deserves some USEPA comment.

41. page 3-41 Colonel Miller of the Army COE is quoted regarding the Land Treatment Alternative as being not "socially acceptable". Has the USEPA made a determination that the uncovered O'Hare plant on site 1 is socially acceptable?

42. page 3-43 The draft EIS notes that the plant design capacity may be excessive but that has no effect on considering alternatives. That is not accurate because it is difficult to justify creating a separate service area to process 40 MGD (12%) of the projected 329 MGD Northside flow in 1990. See "Northside Service Area" graph in Section III letter dated 2-22-75.

43. page 3-47 The "No Action" discussion overlooks the Tunnel and Reservoir Plan with the Northwest Tunnel connected to the Des Plaines River Tunnel.

44. page 5-5 It mentions that occasional odors can usually be traced to 5 sources. What are the other possible sources of odors?

45. page 5-11 "The only potential sources of odor at O'Hare" will be covered. Certainly the aeration tanks and settling tanks can also be sources of odors as the testimony and references in the previous Section IV has indicated.

46. page 5-12 During the pre-chlorination process, what percent of the H_2S that may be generated during low flow conditions in the 66 square mile collection system will be reduced to chemical compounds devoid of any unpleasant odor through oxidation? Whatever percent is left will very effectively be stripped from the raw sewage in the next process -- the first stage open aeration tanks.

47. page 5-13 What is the distance from the ozonated exhaust air stack to the fence line? What is the maximum height allowed by the FAA under the approach path of runway 14L at the proposed stack location. Does the comprehensive plan of the City of Des Plaines allow a stack of 115 feet in this location across the street from an established residential area? The USEPA is requested to discuss the aesthetic qualities of the proposed stack as related to the visual qualities a residential area should expect from an adjacent typical suburban light industrial facility.

48. page 5-13 The exhaust ozone concentration will be kept below an average of 0.015 ppm which is double the "ozone watch" level of 0.007 ppm. What has the MSD experience been at their other plants that use ozone systems to control odors?

49. page 5-14 We concur that the plants cited at the December 19, 1974 public hearing have experienced either over-loading or by-passing or indifferent maintenance. But the odors were not always associated with one of those three situations and it does not logically follow that the O'Hare Plant will somehow

be a shining exception in the MSD system. Why has the MSD not taken the initiative to improve its odor image at its existing plants?

50. page 5-15 "....it cannot be assumed that this plant will experience the odor problems associated with other MSDGC facilities. If significant odor problems result from the operation of the proposed plant, it would be possible to take necessary mitigative measures at that time." Would these measures be similar to the actions that have not been taken at the existing plants? Des Plaines is certainly not ready to accept an empty promise and that is exactly why we have adopted the odor threshold limit in our health ordinance. It would be greatly appreciated if the USEPA would read and comment on the internal MSD memo dated September 11, 1973 regarding their inability to meet a standard 8 times the odor threshold concentration (12/27/74 Attachment #10).

51. page 5-15 If any one of the aerosol generation studies taken as a separate isolated situation could be interpreted as a potentially alarming problem by a non-expert, then what does the composite of all the studies mean to the experts? In Appendix D, they either say "We don't know" or "Because of the potential hazard we should be cautious." None of them concluded that "a good location for a 96 MGD sewage plant is adjacent to a residential area". Somehow the USEPA picked an ear of corn out of a basket of apples and oranges. The USEPA should explain what conclusions they drew from Appendix D.

52. page 5-15 If the "Public Health Service and many medical groups have been carefully scrutinizing these individual problems for many years" -- then why are there no published studies to document this USEPA statement? Also we are not predicting "epidemics or similar catstrophic problems" -- we are concerned about the more subtle 5% or 10% increase of respiratory problems that may not even qualify as "statistically significant". We are also concerned about the

doubts and fear that we have indirectly helped to create in the minds of our citizens. We are not willing to accept the hope of a possible future answer. We are not ready to allow the plant as proposed to be built next to us while waiting for the probably useless $278,000 Salt Creek Health Study on persons living beyond a half-mile from that sewage plant. Incidentally, the Salt Creek plant may have been selected for the study because there possibly were no situations in the United States where a sewage plant of the size desired was being built next to a substantial existing population. The USEPA is requested to verify or deny this observation with specific details.

53. page 5-16 USEPA Region V is "recommending diligence in the pursuit of this missing information". This is nearly a duplicate of the statement that Region V made in July, 1971 ---- and during those last 4 years the federal authorities have produced nothing. And we are concerned that when the Salt Creek results are available in 1976, we will still have no answer. The Clavey Eye Irritation Study offers some insight into the scope of the hazard, but the USEPA failed to address that study in the March, 1975 draft EIS. We can only question "why" and will offer no opinion at this time.

54. page 5-16 "Much of the reported work with biological aerosols has centered on the study of coliform bacteria that have been the traditional indicators of domestic fecal pollution." Why have the coliform bacteria been excluded from the Salt Creek study? Including them would offer an opportunity to relate the current results to previous studies.

55. page 5-17 "This differentiation demonstrates the need for specific testing of Klebsiella and other specific pathogens in biological aerosols from wastewater studies in lieu of the more traditional general coliform group". Des Plaines concurs and has set standards that will limit the respiratory intake to similar levels prescribed in the USPHS Water Quality Standards for average daily digestive intake. While the legal aspects of interpreting the federal regulations are being

argued in U. S. District Court, the reasonableness of the +2 E. Coli and +4 Klebsiella standards should be discussed in the final EIS. If the USEPA desires to propose air quality standards to fill the current federal and state void, the Des Plaines officials would be most willing to participate.

56. page 5-17 It is good to know that the "activated sludge process liberates ten times as many airborne coliforms as the trickling filter." But no where in the 362 pages of the draft EIS can we find an estimation of the aerosol microbial concentrations that the proposed 96 MGD O'Hare plant will emit under average and most adverse conditions. How can the USEPA approve any facility before estimating the pollution?

57. page 5-18 Kenline's dispersion model that predicted the concentration downwind from an aeration tank with an emission rate of 440 bacteria/sq. m./sec does not make a correction for plant size. Even though the emission rates are the same per square meter of surface, the concentration 500 feet downwind from the proposed 8 acres of O'Hare tanks will be greater than 500 feet downwind from a 80 square meter aeration tank. The USEPA is requested to comment in the final EIS on the estimated concentration 500 feet downwind from the proposed O'Hare aeration tanks.

58. page 5-19 "The fact that aerosols are generated cannot be disputed". Des Plaines concurs.

59. page 5-20 Des Plaines also concurs that at 20 feet downwind from the proposed aeration tanks, 60% of the bacteria remaining are small enough to penetrate the lungs. This percentage of the remaining bacteria increases as the bacterial cloud passes into our residential area. What is the USEPA estimate of this percentage at the MSD fence line and nearest residential lot line? Also what is the USEPA estimate of the quantity (average and adverse) and percent of viruses that will allow lung penetration?

60. page 5-21 The USEPA should further explain the statement, "Because little is known of the minimum infecting dose of most organisms, little can be concluded from a public health standpoint." Please relate this to the recent U. S. Supreme Court decision on the Reserve Mining Case in Minnesota that recognized that potential hazards, as well as after-the-fact evidence, must be taken into account. As the Chicago Tribune editorial on April 8, 1975 stated, "Water pollutants that require up to 20 years to kill need not be tolerated until dead victims can be cited in court. All branches of government, with public support, are saying ever more clearly that a technically complicated society requires sophisticated safeguards of its water. The days when it was all right to dump any amount of anything anywhere are over. They have to be." Again Des Plaines simply desires the air we breathe to be as pure as the water we drink.

61. page 5-22 We concur with the USEPA conclusion that, "it is not adequate to compare 'sewage workers' to individuals in the general population who may come into sporadic contact with infectious agents in sewage aerosols or on vegetation and soil". Does the USEPA concur that this statement is a contradiction to the primary MSD argument in "Health" position paper on page I-2,"The purpose of this survey is to review what is known about aerosols generated by sewage treatment plants for two points of view:

1. The aerosols themselves, their persistance and composition
2. Public health implications associated with sewage treatment facilities.

The second topic will be discussed primarily with respect to wastewater treatment personnel."

62. page 5-23 "There is simply no epidemiological data available, of which we are aware, that would indicate any public health impacts whatsoever."(emphasis added) Please explain this statement in relation to the Clavey Eye Irritation Study that was presented to the USEPA on December 27, 1975.

63. page 5-23 The reference to "implement compliance with any law applicable" is an apparent contradiction to Mr. Mayo's statement of August 21, 1974, "To the extent that your ordinances would not be in conflict with Federal law and construction grant regulations, it would be an implied condition of any grant." The U. S. District Court of Appeals recently ruled against the AEC for violating their own regulations at Portage, Indiana. This decision also cited that the AEC overlooked their own staff recommendations. A similar situation may exist within the USEPA where possibly contrary recommendations may be contained in "3 memoranda, dated 1/7/75, 2/4/75 and 3/5/75, concerning first the drafters' conclusions and thoughts regarding site and size alternatives." This is a statement from a letter dated April 7, 1975 from Robert B. Schaefer, the USEPA Regional Counsel in which he denies our request for examination of these documents. Because the site question has been the core of the controversy, we feel it is improper for the drafters' conclusions and thoughts regarding site alternatives to remain legally hidden. We pray that the USEPA will reconsider this denial and incorporate these memos in the final EIS or at least make them available for evaluation to a neutral third party such as Congressman Crane.

64. page 5-23 "Because of the interest in this particular subject, we have also included MSDGC's position paper with respect to health aspects in Appendix I." The draft EIS contained only the USEPA and MSD's ideas. Any contrary ideas were excluded with the exception of 3 respondents in Appendix D. This does not improve the reputation of the USEPA for being objective. Will someone reviewing the draft EIS be aware of our imputs of 12/19/74, 12/27/74, 1/21/75, 1/25/75, 2/13/75, 2/14/75, 2/21/75, 2/22/75, 2/26/75? How do we know they were even considered if they were not discussed in the draft EIS? We assume they will each be included and discussed in detail in the final EIS.

65. page 5-24 The "Village" of Des Plaines is a City.

66. page 5-25 "The (HUD) Handbooks do not provide specific regulations which must be followed (for example, distance requirements)." The USEPA should agree that it would be impossible for the HUD handbooks to provide specific isolation minimums for every conceivable situation. But the USEPA is remiss for not attempting to determine how the non-specific guidelines are specifically interpreted by local and regional HUD offices. Again, this information had to be omitted by the USEPA to justify their approval of Site 1. The Des Plaines officials did the work for the USEPA and requested inputs from all 87 HUD offices in the United States. As of this writing we have received a total of 46 replies that contain substantial and detailed information that very clearly proves that site 1 could not be approved by the agency of our federal government that is concerned with the homes of our citizens. These HUD replies also revealed the existence of State Isolation Standards in 4 out of the 6 states within our own USEPA Region V. All 46 replies are reproduced in the following Section VI. No additional replies have been received as of this writing (4/14/75)(and therefore none have been withheld because they did not support our position). The USEPA is requested to study these federally required isolation distances and comment in the final EIS. They will find for an average sized plant an average required isolation distance of 1000 feet between the plant boundary and the residential boundary. The half mile long 100 foot width of Oakton would be totally unacceptable.

67. page 5-25 Concerning the homes adjacent to the sewage plant the draft EIS concludes "any long-term decrease will be negligible." Please relate this conclusion to the HUD regulations included in the draft EIS Appendix O. Apparently HUD does not concur. We suggest the United States Environmental Protection Agency and the United States Department of Housing and Urban Development should begin a dialog before the final EIS is written. Their local phone number is Area Code 312, 353-7660. The phone numbers of the other 45 HUD offices that responded to our request for information are included in their letters reproduced in the following Section VI.

68. page 5-25 "Once constructed and landscaped, the site should be aesthetically pleasing in the context of its surroundings." This is not accurate either considering the broadest meaning of the word (see ltr. to Mayo dated 2/14/75 in Section III) or considering the proposed 115 foot stack.

69. page 5-27 Why is it important "to maximize the ground level visual screening" if the plant should be such an attractive and socially accepted addition to our community. This is an apparent contradiction that the USEPA is requested to explain.

70. page 5-28 The draft EIS states that "Extensive provisions have been made in this project for odor control at key odor generating points." This is an apparent contradiction to the statement on page 5-11 that is worded "The only potential sources of odors....." We agree with Metcalf & Eddy and the USEPA Technology Transfer Series that the aeration and settling tanks are also potential sources of odor release. Uncovered tanks on site 1 are not acceptable to Des Plaines. Uncovered tanks on sites 2 through 9 are conditionally acceptable.

71. page 5-31 The draft EIS states that "The use of sludge as a landfill will not have any detrimental effects on the surrounding area." This is an apparent contradiction to the Illinois Pollution Board Case #75-112 which is the "Illinois EPA vs. MSDGC -- Complaint charging respondent with the discharge of contaminates so as to cause air pollution in violation of the Environmental Protection Act in the operation of its sludge utilization and disposal facilities in Fulton County. A hearing is mandatory." (IPCB Environmental Register #100 dated March 28, 1975 - New Cases). The USEPA is requested to clarify their draft EIS statement.

72. page 5-32 (Finding #1) Funding is not permitted until all conditions are met including state certification and compliance

with local environmental laws and regulations (40 CFR 35.925-14) Site 1 is not permitted under federal interpretations of minimum isolation distances from residential areas.

73. pages 5-32 (Finding #2) Covering of tanks at site 1 is mandatory to meet local emission standards and to "assure for all Americans, safe, healthful, productive, and esthetically and culturally pleasing surroundings -- without degradation, risk to health or safety...."(National Environmental Policy Act of 1969). The MSD has demonstrated that they will not even acknowledge the USEPA recognized odor problems at their existing facilities.

74. pages 5-32 (Finding #3) The present buffer zone of 100 feet (width of Oakton) is not adequate based on federal decisions made by sanitary engineers from the housing viewpoint. The status of Wille Road will not change the 100 foot boundary distance which is the federal measurement practice. Also the USEPA should explain why a "larger buffer would be desirable for aesthetic reasons." This is an apparent contradiction to the USEPA conclusion that a sewage plant is an attractive and socially acceptable neighbor similar to an attractive suburban light industrial facility.

75. page 6-1 This chapter should not have been left blank if the USEPA desired to present contrary opinions in the draft EIS for circulation, examination and comment. If the USEPA intended to limit the circulation of opposing ideas, opinions, facts and conclusions, then the objective was accomplished. We will predict the USEPA explanation that because of the voluminous nature of the input, it was all excluded. If limited to state and municipal comments without attachments, it would have added approximately 70 pages to the 362 page draft EIS.

76. page 7-1 What is the status of the draft EIS on the Tunnel and Reservoir Plan? The USEPA is requested to comment on the Des Plaines opinion that the entire TARP system concept should

have been studied before the O'Hare facilities (which are an element of TARP) are approved for funding. Also please comment on the degree of federal involvement in the preparation of the TARP draft EIS. Does the responsible federal agency accept responsibility for the accuracy of statements made by the MSD and Bauer in their preliminary draft EIS?

77. page 7-7 The City of Des Plaines M-23-74 Health Ordinance is referenced but is not discussed anywhere in the draft EIS. Can the environmental review process be completed without addressing the reasonableness of the air pollution limitations for bacteria and odors? Will funding be approved before the legal aspects are resolved? Will funding for the northwest portion of TARP be approved before TARP is evaluated to determine the cost-effective interrelation?

78. page A-12 "population equivalent of 439,000" should be revised downward to 300,000 in the design year 2000 to agree with NIPC projections adopted by Illinois and MSD.

79. page A-13 Note use of "land located in the clear zones for additional public benefit." Please relate this in the USEPA draft EIS statement on page 3-17: "Site 7 is being eliminated because it lies in the 'clear zone' approach to runway 9L on O'Hare International Airport." Of course an effort would have to be made to keep all structures low or flush with the surface but this would be less expensive than the $30 million tank covers on the Oakton-Elmhurst site plus another $15 million for air purification equipment and the annualized operating costs. USEPA please comment.

80. page A-15 Has a cost-effective analysis been calculated on utilizing the 850 acre-feet combined sewage retention capacity of the Mount Prospect reservoir as a flow equalization on-line reservoir in conjunction with the connection of the proposed northwest tunnel to the Des Plaines River Tunnel. Our calculations indicate this would be more cost-effective and eliminate the need for the O'Hare plant and reservoir. The USEPA is requested to evaluate this option in the final EIS. Please

consider: 1) the start-up of the Salt Creek plant 2) the 1968 capacity of 49.7 MGD in the Rand interceptor 3) the planned 104 MGD expansion of the Northside Plant and 4) the planned expansion of the Stickney plant.

81. page B-1 Please examine the cost-effective calculations of TARP Alternatives G, H, and J that do not include the O'Hare reservoir and relate these calculations to the need for the O'Hare plant based on the revised service area flow estimate of 41 MGD (including industries and infiltration) from an effective population of 300,000 in the year 2000.

82. page B-2 Has a delay been approved by the Illinois Pollution Board to allow the estimated 6 overflows per year into Weller Creek after the December 31, 1977 deadline? This will be necessary if the 1800 foot O'Hare combined sewage reservoir is no longer actively being considered. Of course, if the reservoir is still a vital part of the plans, then the combined pollution impact must be considered in the final EIS.

83. page B-2 The Stearns Reservoir has been dropped from the 1975 major revision of TARP based on a request from Chicago that said "it would become a large open-pit during dry weather periods and a pool of combined sewer overflows during and after storm periods." Such use "is in conflict with city requirements and planning." In an MSD report dated September 4, 1974 the Stearns Quarry was dropped from the TARP system. The Stearns Quarry is in Mayor Daley's home 11th Ward. The location of the O'Hare plant and reservoir are in conflict with our planning and we have requested consideration of more environmentally sound sites for 10 years. The USEPA is requested to comment on the possible relationship between the disposition of these two requests regarding the engineering, environmental and cost-effective principles used in each MSD decision.

84. page B-12 Without the Stearns Quarry reservoir the mainstream tunnel would have to be increased in size from 42 foot to 55 foot diameter. This will raise the system cost from $25

to $50 million dollars according to MSD district superintendent Bart Lynam (Sun Times, 3/7/75). USEPA please comment.

85. page B-13 The MSD statements on this page leave the impression that a 2700 acre-foot O'Hare reservoir is still being considered. Again let us repeat that federal regulations require the consideration of the combined environmental impacts and combined cost-effective calculations. Is the USEPA reading their regulations differently than Des Plaines? USEPA please comment.

86. page B-14 Increasing the diameter of the Des Plaines River Tunnel should allow sufficient capacity for the connection to the northwest tunnel system. Has the USEPA scheduled a draft EIS for the Des Plaines River Tunnel and the McCook-Summit Reservoir?

87. page B-20 The MSD describes the 58% changes in the November '74 TARP system as "minor variations". The "possible interconnection" under O'Hare Airport has been eliminated. USEPA please comment if this is cost-effective. Also please comment if public hearings will be required on the 58% "minor variations" of the TARP system.

88. page C-3 There are no cost-effective calculations or even a comparison of the total costs of various alternatives in Appendix C or any of the References. Citing the "review of the planning history" as the cost-effective justification for creating the service areas should not be acceptable to the USEPA because a history does not fulfill the requirements in the federal regulations. The various policies and plans that were revised over the past 15 years should be updated to reflect the adoption of the TARP system. No federal funds can be approved for the O'Hare plant until the creation of the service area is justified.

89. page D-16 & D 17 When our windows are open during July and August and our backyards are used most frequently, the

predominate wind will be out of the S-SW 32% of the time. Subtracting the calm conditions from 100% and multiplying by 3/16 would give an evenly distributed wind from this direction of 18% of the time.

90. page D-36 Dr. Bunch (USEPA research) states that "the actual data available would indicate that the risk is very small." But no data is provided to justify that conclusion.

91. page D-36 "Primary settling basins may need covers if the sewers coming into the plant are septic or contain offensive organic compounds." Should this be classified as a potential source of odor in the final EIS?

92. page D-36 Why are "scientifically placed wind baffles" suggested if the "risk is very small" from "the drift of bacteria from the aeration tanks'?

93. page D-39 Dr. Wellings (State of Florida) "These data indicate that there is a possible health hazard in siting a waste treatment facility of this size and type in this location". USEPA please comment.

94. page D-40 "There are odor problems in a half to one mile radius of a 5 MGD activated sludge treatment plant in northwest St. Petersburg. The odors are augmented by humidity and wind direction. I would anticipate that the proposed plant would pose similar problems."

95. page D-45 Dr. Love (USEPA Research) "There is some potential health hazard but too little is known to define the extent of the hazard". Does this constitute the "assurance" and "without degradation, risk to health or safety" that is provided by the National Environmental Policy Act of 1969?

96. page D-46 Why was Clifford Risley of USEPA Region V not aware of the minimun isolation distance requirements in 4 out of the 6 States in Region V?

97. page D-47 Why did Clifford Risley of USEPA Region V not recall the Clavey situation when answering question #7? USEPA please comment on paragraph 4.13 of our 12/27/75 comments.

98. page I-4 "up to 98% reduction in coliform counts per cubic meter distances from 1320 to 4224 feet." What was the bottom end of this range up to 98%?

99. page I-9 "It is recognized that as little as one tissue culture infective dose (TCID) of certain viruses may initiate infection in man." Des Plaines concurs with this MSD statement based on the literature reviewed. What levels of microbial contamination does the MSD and/or USEPA estimate that will be generated by the proposed plant? And what levels are considered "without degradation or risk free" by the MSD and/or USEPA? What percent increase in respiratory infections is considered acceptable by the MSD and/or USEPA?

100. page I-11 "The fact is that the combination of factors necessary to produce an illness is not known." This MSD statement cannot be considered as any assurance to the people living next to the proposed plant.

101. page I-12 What is the reference to "lower property values" doing in the MSD's position paper on the Health Aspects of Sewage Treatment Facilities?

102. page I-13 Where in the United States is a plant of this magnitude being "sited in close proximity to populated areas"?

103. page I-13 Please provide a population versus distance bar graph on the population "near" the Egan plant that are participating in the health study. Also relate this bar graph to the survival distance of microbial air pollution.

104. page J-2 Sewage plants are not "causing vehment opposition from the public, notably because of an apparent odor potential" but because they smell.

105. page J-8 Considering the MSD's "prime obligation to promote a healthful environment within its jurisdiction" why has the MSD been so insensitive to the odor problems at Northside revealed in the 1968 and 1973 surveys?

106. page K-2 Why is the MSD "evaluating methodology for reducing aerosol transmission from the plant proper'?

107. page K-4 If the MSD "has chosen" not to attempt to answer each individual question, will the USEPA address each of our questions and comments in the final EIS? This, of course should have been done in the draft EIS.

108. page N-14 Why is the "Chicago Building Code" being used for a plant proposed for the City of Des Plaines? USEPA please relate this to the federal regulation 40 CFR 35.935-4 which states in part "each treatment works grant shall be subject to the following conditions: State and local laws --The construction of the project shall conform to...local laws and ordinances."

109. page O-1 Federal HUD Regulations state "the best means of assuring protection against possible odors is to provide adequate space between the residential properties and the sewage treatment plant." Without even being aware of the HUD interpretations in the following section and just relying on simple common sense -- does the USEPA Region V really believe that the 100 foot width of Oakton Street between the one-half mile long common boundaries constitutes an adequate and reasonable "isolation" strip?

Respectfully submitted,

Richard F. Ward

Richard F. Ward
Commenting for the City of Des Plaines

Response:

1. Odors may occur if the biological processes are upset for some reason. Under normal operating conditions we have concluded that no significant odors will develop. We likewise do not believe the aeration tanks or settling tanks will be sources of odor.

2. A discussion of the aerosol suppression facilities which we are requiring MSDGC to provide is found in Chapter 3, Section C.

3. See our response in Section A of this Chapter to Slides 36 and 37.

4. Our analysis of projected flows to the proposed WRP is discussed in Chapter 3, Section B.

5. The status of sites identified as 1, 2, 3 in the June 25, 1964 report is as follows:

   Site 1 - Ravenswood Airport - MSD owns 22 acres at the north end of the property and the City of Chicago owns the remainder of the parcel. MSD hopes to acquire the remainder of the parcel to construct a storm water reservoir on the site as part of the Higgins Creek Watershed Plan. See Appendix A.

   Site 2 is at the end of one of the O'Hare runways.

   Site 3 is the same as site #10 in Appendix Q, Attachement A.

   These three sites referred to by Mr. Ward were not part of the nine possible sites that were identified by Mr. Ward when he met and visited each site with USEPA staff on January 23, 1975.

6. The option of utilizing the increased collection capacity and flow equalization capabilities of TARP identified by Mr. Ward was evaluated by USEPA (See Chapter 3, Section A, B) and found not to be the most cost-effective alternative.

7. USEPA accepts full responsibility for the content of the body of the Final EIS statement and those appendices written by USEPA. The appendices by MSDGC have been reviewed by USEPA Other appendices represent the positions of the authors.

8. The 72 MGD projection includes a dewatering capacity of 24 MGD. (See Chapter 3, Section B)

9. The area is now referred to as the Upper Des Plaines Service Area.

10. See response to slides #9 and #10.

11. We do not concur with Mr. Ward's statement that MSD issued a Draft EIS on TARP. It is our understanding that the Army Corps of Engineers issued the Draft EIS. The question about when the Corps will issue a Final EIS on TARP should be directed to the COE. Chapter 3, Section A of the O'Hare WRP EIS determined that the O'Hare Service Area should be formed and the WRP constructed.

12. Since MSD stated that the July 26, 1973 was a meeting and not a hearing, the requirements for a public hearing are not applicable.

13. Chapter 1, Section E and Chapter 3, Section A have been revised to address these questions.

14. All correspondence relating to the proposed project is not referenced. USEPA does not feel it necessary to list each letter related to the proposed projects. The MSD environmental matrix has been revised by MSD and is found in appendix Q.

15. Copies of the Revised Environment Assessment and Responses of the MSDGC to Public Comments were transmitted to the City of Des Plaines and the Des Plaines Public Library by MSD.

16. Chapter 3, Section B address these questions.

17. No comment necessary

18. The impacts of the possible combined overflow reservoir have not been addressed in this EIS since it is not part of the proposed project. Constructing the proposed WRP and tunnel conveyance system does not make a commitment to constructing the combined overflow reservoir. (See Chapter 1, Section E)

19. No comment necessary.

20. No comment necessary.

21. No comment necessary.

22. See response to slide #38.

23. See response to question #18.

24. The word contiguous was not a word used by MSD in their criteria for selecting a plant site in their November 1974 Environmental Assessment.

25. The statement on Page 3-11 is that the WRP has been designed so that it can be accomodated on a rectangular plot of land of approximately 65 acres.

26. USEPA believed that greater flexibility in the architectural landscaping could be achieved with a larger buffer zone.

27. The trailer home on site #4 is identified when site #4 is discussed and the population density surrounding site 1 and site 2 are reflected in Mr. Ward's relative population density analysis found in appendix R.

28. Chapter 3, Section C and appendix Q identify the approximate distances of the 10 foot diameter influent sewer necessary to dewater the 20 foot diameter tunnel.

29. The status of site 3 is discussed in Chapter 3, Section C.

30. See Chapter 3, Section C and appendix Q.

31. See Chapter 3, Section C and appendix Q.

32. Site #7 was eliminated because the land was said to be unavailable by the Chicago Airport Authority. The statement that site #7 may cause a safety hazard to aircraft has not been confirmed or denied by the Airport Authority and is a moot point since the site is not available.

33. See Chapter 3, Section C and appendices Q and V.

34. See Chapter 3, Section C and appendices Q and V.

35. See Chapter 3, Section C and appendices Q and V.

36. Prior to constructing the O'Hare WRP the State and USEPA will certify that the WRP design plans meet all required engineering and environmental standards.

37. The responses are available for review. Chapter 3, Section C and Chapter 5, Section I and L address USEPA evaluation of the potential health hazard question.

38. USEPA regulations require that alternative sites be evaluated for all wastewater treatment plants funded under PL 92-500.

39. This could only have been incorporated if the City of Des Plaines had vacated Wille Road.

40. See Chapter 3, Section B.

41. USEPA considered social acceptability as one of the factors in evaluating sites for the location of the WRP. We feel that the proposed WRP as designed with aerosol suppressive facilities is socially acceptable.

42. See Chapter 3, Sections A and B.

43. Building and interconnecting tunnels is not a no action alternative; it is an action alternative and was evaluated. (Chapter 1, Section E and Chapter 3, Section A)

44. Other sources of odor could occur if the biological processes of the treatment plant were upset.

45. Other sources of odor could occur if the biological processes of the treatment plant were upset.

46. The dewatering capacity (24 MGD) of the tunnels should preclude the sewage from becoming septic. Pre-chlorination is included as a precaution to handle any sewage which might become septic. It is not possible to predict exact quantities of H_2S that might be generated.

47. The stack is 200 feet from the North property line and 130.5 feet CCD. The site elevation is 80.5 feet, so the stack height is 50 feet. The site is zoned for light industry and this 50 foot stack will not be aesthetically incompatible with the surroundings.

48. Page 5-14 of the Draft EIS is in error. IPCB rules state that an "ozone watch" must be called when the average ozone concentration exceeds .07 ppm for two hours and the official weather forecast indicates no substantial improvement in stagnation conditions. The emission concentration at the stack discharge point will average less than .015 ppm and

this concentration is diluted as mixing with the air occurs.

49. The MSDGC has addressed the odor issue raised at the North Side Plant. (See appendix Q)

50. It is our conclusion that the proposed odor control measures will be sufficient to avoid any significant odor problem at the O'Hare WRP. We do not feel this plant can be compared to other MSDGC facilities. Should a significant odor problem develop, the State of Illinois has an established enforcement mechanism for addressing these problems.

51. The ability to isolate and replicate on nutrient media pathogenic organisms does not indicate if the organisms are virulent enough to infect man. Therefore, studies that isolate and replicate pathogenic organisms from a sewage treatment plant do not determine infection potential or a health hazard. See Chapter 3, Section C and Chapter 5, Section I and L for further discussion on the potential health hazard question.

52. We believe that the mitigative measures we have proposed in Chapter 3 will be sufficient to preclude the possibility of a health hazard to the residents in close proximity to Site 1.

53. See response to slide #38.

54. Coliform bacteria are not generally considered to be pathogens but rather indicators of pathogens.

55. The proposed WRP shall meet all applicable Federal, State and local laws.

56. While we could make estimates of the concentration to be at a certain distance downwind, it would be impossible to judge the accuracy of these estimates. The concentration would also never be static, but would fluctuate considerably under various atmospheric conditions. As pointed out in the literature, the bacteria and viruses are subject to factors such as wind speed, humidity and temperature, which result in a particular die-off rate. This rate would also be specific for various species of bacteria and viruses. We are requesting the MSDGC to demonstrate to us the effectiveness of the aerosol suppression facilities which they are being required to install. This will provide us with further information on possible aerosol movement from the site.

57. See previous response.

58. No comment necessary.

59. See response to comment 56.

60. See Chapter 3, Section C and Chapter 5, Sections I and L.

61. Since sewage plant workers generally represent an age group from 18 to 65 years of age and most often are males, they do not reflect statistically a general community population.

62. See response to slide #38.

63. There is no conflict between the language of August 21, 1974 and the statement "implement compliance with any law applicable" on Page 5-23 of the draft. With respect to the 3 memoranda, they come precisely within the exemptions defined in the Freedom of Information Act of the Congress, as recently amended by Public Law 93-502. The freedom of staff to set forth and exchange thought processes, free from thought of censure or disturbance, is thereby determined to be important even as the importance of the right of the public to have access to the factual information contained in our files is parallelly assured. This viewpoint was expressed to Congressman Crane in a May 6, 1975 letter from Mr. Francis Mayo.

64. The letters submitted from all agencies of the City of Des Plaines and the general public have been reviewed by USEPA staff as to their applicability and content and have been given consideration in reaching the conclusion in the final EIS.

65. The word Village has been changed to City in the final EIS.

66. See response to slides #'s 49, 50, 51, 55, 56 and 57.

67. Same as above.

68. The stack will be 50 feet tall. The site will be designed to be aesthetically pleasing.

69. Processing equipment by itself is not known for its inherent aesthetic beauty.

70. The two statements quoted are not at all contradictory. The statement on Page 5-11 recognizes that some units in the treatment process are much more likely to be a source of odors than others. The statement on Page 5-28 recognizes that

certain precautions should be taken at these particular potential odor sources.

71. There is a fundamental difference between the use of sludge in a landfill and its use for application on land, such as in Fulton County. In order to be used in a landfill the sludge must be dewatered considerably before being disposed of. It is then covered by other material in a properly operated landfill. In a land application project, the sludge is sometimes simply sprayed on the land, thereby it could more easily be a source of odor.

72. Construction grant regulations do require compliance with applicable state and local laws. The applicability of the Des Plaines ordinance is being determined by the courts. The 500 foot HUD guideline cannot be applied to all cases, since each case must be judged on its own merits.

73. We are requiring mitigative measures to comply with the cited intent of the National Environmental Policy Act. (See Chapter 3, Section C and Chapter 5, Section I and L)

74. See responses #26 and #72 as well as Chapter 5, Section C.

75. Chapter 6 is to express public comment in the final EIS, not the draft. Public comments were reviewed and considered by USEPA prior to writing the draft EIS.

76. See response to question #11, Chapter 1, Section E and Chapter 3, Section A of the final EIS on the O'Hare WRP.

77. The legality and validity of the City of Des Plaines, M-23-74 Health Ordinance will be resolved in the courts. A grant condition of funding the WRP is that it meet all applicable Federal, State and local laws.

78. See Chapter 3, Section B.

79. See response to question #32.

80. Constructing a single 850 acre foot combined overflow reservoir is not a solution to the problem defined for the O'Hare Service Area. The formation of the O'Hare Service Area and decision to build the WRP is discussed in Chapter 1, Section E and Chapter 3, Sections A, B and C.

81. See Chapter 3, Section A.

82. See Chapter 1, Section E.

83. See response to question #18, Chapter 1, Section E and Chapter 3, Section A.

84. This statement is relevant to the projects being evaluated in this impact statement.

85. See response to question #83.

86. As of this date, we are examining the need to do an EIS on TARP.

87. See Chapter 1, Section E and Chapter 3, Section A. At the present time, we have not determined whether any additional public hearings will be necessary.

88. See response to question #83, Chapter 3, Sections B and C and appendix Q.

89. No comment necessary.

90. Dr. Bunch is referring to the fact that there has been no documentation of a health problem resulting directly from the aerosols generated by a sewage treatment plant. He therefore concludes that the risk would be very small. Very little actual study has actually been done to conclusively define the risk involved.

91. The O'Hare water reclamation plant is designed without primary settling basins, since it will generally be operated as a two-stage aeration facility.

92. They were suggested simply as a means of decreasing any risk that does exist, however small.

93. We are in complete agreement with Dr. Wellings statement. This was one of the many factors considered in our conclusion to require adequate aerosol suppression facilities.

94. It is not clear that the St. Peterburg plant cited has sludge handling facilities on site, although this is likely to be the case. It would not be valid to compare a plant without sludge handling facility and with its proposed odor control measures to another activated sludge plant unless they have similar process facilities. Furthermore, many other factors relating to composition of raw sewage, type of processing equipment and operation and maintenance procedures must be similar to make a comparison.

95. Our proposed mitigative measures will be sufficient, we feel, to provide the assurance prescribed in the National Environmental Policy Act.

96. The distance requirements cited are applied to forestall any odor problems and not to protect adjacent residential communities from a potential health hazard, which was the subject of question 5.

97. Apparently, Mr. Clifford Risley does not feel that Clavey Road and the proposed O'Hare WRP are comparable situations. We have considered paragraph 4.13 in evaluating the proposed Project as discussed in the final EIS on the WRP.

98. The cited reference shows that from 1800 feet to 4224 feet there was only a 58% reduction. It should be pointed out, however, that this was only one sample and before any generalizations or conclusions are made, all the data given in Table I of the Adams and Spendlove article must be considered.

99. See response to #56. It is impossible to state explicitly what is risk-free.

100. No comment necessary.

101. MSD was relating their experience at the Hanover treatment plant with respect to effect on property values and the acceptance of a sewage treatment plant adjacent to their residences.

102. One instance of which we are aware is the Coney Island Water Pollution Control Plant operated by the City of New York. The capacity of the plant is approximately 100-110 MGD. There are apartment buildings and two-family dwellings immediately adjacent to the plant site.

103. The Salt Creek Plant does not have a high population density around it. Much of the area adjacent to the plant is undeveloped. We anticipate that microbial survival data will be available when the Salt Creek Study is completed.

104. No comment necessary.

105. See appendix Q, attachment D for MSD's position on this question.

106. Possibly, they anticipated our concern for aerosol suppression.

107. USEPA has tried to answer all relevant questions raised by all groups and individuals related to the proposed O'Hare projects.

108. With respect to 12.2 in Appendix N, beginning on N-13, the listed items are points of reference to be applied consistent with 40 CFR 35.935.4.

109. See response to slides #49-52 and #55-57 and see Chapter 3, Section C and Chapter 5, Sections C, I and L.

f. HUD Isolation Interpretations

The City of Des Plaines sent the letter on the following page to 87 HUD offices in the United States. The responses they received are summarized in the following table. Our response to this issue is discussed in Ahapter 5, Section C and in our response to Slides 49-52 and 55-57.

Summary of HUD responses to Des Plaines letter dated 3/11/75.

Name of Office	Isolation Distances Recommended
Anchorage, Alaska FHA Insuring Office	1000 feet
Atlanta,Georgia Area Office	500 feet
Charleston, West Virginia FHA Insuring Office	500-1000 feet
Chicago, Illinois Area Office	500 feet
Cleveland, Ohio FHA Insuring Office	500-1500 feet
Columbia,South Carolina Area Office	300 feet
Coral Gable, Florida FHA Insuring Office	400 feet
Houston, Texas FHA Insuring Office	300 feet
Indianapolis, Indiana Area Office	250-500 feet
Des Moines, Iowa FHA Insuring Office	1000 feet
Jackson, Mississippi Area Office	200 feet
Jacksonville, Florida Area Office	400 feet
Louisville, Kentucky Area Office	250-600 feet
Lubbock, Texas FHA Insuring Office	1600 feet
Grand Rapids, Michigan FHA Insuring Office	800 feet

Name of Office	Isolation Distances Recommended
Milwaukee, Wisconsin Area Office	750-1000 feet
Minneapolis, Minnesota-St. Paul Area Office	1000 feet
Phoenix, Arizona FHA Insuring Office	500 feet
San Francisco, California Area Office	300 feet
San Juan, Puerto Rico Commonwealth Area Office	330 feet
Shreveport, Louisiana FHA Insuring Office	500 feet
Washington, D. C. Area Office	1000 feet
San Diego, California FHA Insuring Office	500 feet

THE CITY OF DES PLAINES

COOK COUNTY, ILLINOIS

MEMBER ILLINOIS
MUNICIPAL LEAGUE

RICHARD F. WARD
Alderman 8th Ward
1410 Miami Lane
Des Plaines, Illinois 60018
(AC 312) 827-8715

March 11, 1975

- SENT TO ALL 87 HUD OFFICES IN U.S.
- 46 ANSWERS WERE RECEIVED.

We are attempting to determine a reasonable isolation distance between the boundary line of our proposed 72 MGD activated sludge sewage treatment plant and existing residential boundary lines.

As the attached excerpts from several HUD Regulations indicate, local interpertation is necessary and each situation is carefully examined for mortgage insurance purposes. It is our understanding that the advice of qualified sanitary engineers and local health authorities is solicited and considered to determine the eligibility of a property for mortgage risk insurance.

We would appreciate copies of your local guidelines and 2 or 3 representative field reports or appraisals that cite distances from sewage plants. We are aware that the outdated Neighborhood Standards #6 specified a minimum isolation distance of 750 feet and we have already received a few examples that cite distances of 500 feet to one-half mile. We need your input so that we will have a broader base of information. We would appreciate your reply before March 21st so that it can be incorporated in our presentation at the USEPA public hearing on March 31, 1975. Thank you.

Sincerely,

Richard F. Ward

Richard F. Ward

Attachment

2. **William H. Radcliffe**

136 W. Dover Dr.
Des Plaines, Illinois 60016

April 18, 1975

Mr. Harlan D. Hirt

Chief
Planning Branch
United States Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604

ENVIRONMENTAL PROTECTION AGENCY
RECEIVED
[illegible]
PLANNING BRANCH - Region V
FILE NO.__________

Subject: Environmental Impact Statement for the O'Hare Sewage Treatment Plant and Its Associated Projects.

Dear Mr. Hirt:

When the Metropolitan Sanitary District of Greater Chicago had their hearing on the O'Hare Treatment Plant on December 19, 1974, I submitted a report. Because of the lack of good technical process flow data in the MSDGC EIS, the report was aimed at pointing out potential areas of concern. A copy of this report was sent to your branch. Unfortunately, I find myself in a similar situation after studying the USEPA EIS on the O'Hare Projects. It is therefore my intent in this letter to address a few of those concerns.

I. Site Location

It is my opinion that the site at Oakton and Elmhurst Roads does not correspond to 'good engineering practice' and does not comply with the guidelines for the locations of sewage treatment plants within the State of Illinois as outlined in the 'Ten State Standards for Sewage Treatment Plants'. There are three key factors factors which negate the selection of this site; bordering residential area, major prevailing wind and size of the plant. The plant to be constructed is a large treatment plant. It is to be built down wind

4/18/75

and across the street from an existing residential area. I do not believe that a 100 feet or a 400 feet buffer zone is justified when considering these facts. It is my opinion that a plant of this size should be at least ½ mile away from existing residential areas, especially when it is to be built down wind of the residential area in the direction of the major prevailing wind.

II. Sewer Detention Time

In one of the USEPA technology transfer bulletins prepared by Roy E. Weston Inc., one of the problems presented was the receipt of septic sewage at the Washington D. C. sewage treatment plant. It occurred primarily during the hotter months and was attributed to low flow in the complex sewer system. The toxic, flammable, highly odorous gasses associated with such septic sewage would be stripped out into the atmosphere by aeration. A solution to this is to add sodium hypochlorite up stream of the plant. This will inhibit the generation of H_2S, but it also increases the load on the aeration tanks since it is a bactericide for the bacteria required for BOD reduction. I question the design of the tunnel and reservoir system. Will this generate septic conditions? Further with the tunnel and reservoir system and potential varying septic conditions, will the sodium hypochlorite system truly control odor problems or tend to minimize them at best? I believe the latter is true.

4/18/75

III. Ozone for Odor Control

A building will be built to contain the incoming odorous screenings. To control the odors ozone will be employed to treat the exist gasses. The system as described leaves me very skeptical. I believe that an excess of ozone will have to be employed with this system to effectively control the odor. This is not a desirable condition. As the system is to theoretically work, I again perceive a unit which will minimize odors but not control them.

IV. Potential Health Hazard from Air Borne Bacteria.

Here we are dealing in true speculation. The USEPA EIS speculates that there mostlikely is no major health hazard and in the future if this proves to be wrong then they will try to correct the problem. I have a lot of respect for the USEPA. I consider this concept to be well below their usual policy.

It is a known fact that there are many different viruses and bacteria in waste water. We are concerned only with those that are pathogens. As the EIS states these pathogens will have a air borne life in a generated aerosol directly dependent of the particular pathogen and the climatic conditions present. Further in publications of the American Water Works Association, it is pointed that such pathogens borne in water have their greatest effect on the young. As individuals grow older they develop a greater immunity to the pathogens found in waste water.

Now I run into a problem. It was my understanding that in 1975 standards were to be adopted on just such emissions as what is being considered here. But, I find very little and for the most

4/18/75

very inadequate work being done on this subject. One apparent standard is to use E. Coli as the guideline for concentrations of pathogens present. It is assumed that the various pathogens are present in some concentration proportional to the known concentration of E. Coli. Although this is true, the proportion will vary with the incidence and the type of illnesses prevalent in the area. The only documentation which quantitatively studied E. Coli aerosol emissions from equipment processing sewage is reported in the American Institute of Chemical Engineers', Recent Advances in Air Polution Control, Volume 70, 1974. In this publication data is accumulated from which estimates of E. Coli emissions can be made. Further in this publication, it is recommended that aerosol E. Coli emissions be the same as those for water when related to human intake. This would limit E. Coli emissions to a maximum of 3.5 E. Coli. per cubic meter.

Based on the above article and a flow of 45 MGD, the E. Coli emissions from the plant would be as low as one million E. Coli per hour to more than several billion E. Coli per hour. The source concentration could range from about 340 E. Coli per cubic meter to above 10,000 E. Coli per cubic meter. No known relationships between these concentrations to other pathogens were found. With the possibility of generation of such high quantities of pathogens in aerosols, it is hard for me to lightly dismiss the potential problem.

Now for an aside and some speculation on my part. In the Chicago Tribune dated Friday, April 4, 1975 two items were reported on page 5.

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The first article was the fact that Chicago had double the national average of known cases of infectious hepatitis. Is this a problem in this area? Such reports make me curious about the location of a large treatment plant in relation to residences.

The second article dealt with the study of cancer causing viruses in the Fox River. In this article there was a map of Aurora with symbols identifying leukemia and lymphoma victims. I noted that there appeared to be a heavier cluster east of the Fox River and towards the middle to south end of Aurora. This cluster is located down wind from a treatment plant which I believe might be within one mile of the cluster. This particular plant is located at the south end of Aurora on the west bank of the Fox River. It employs extensive spray systems and costantly seems to have a heavy mist generated. Is there a relationship? I am not qualified to address such a question, and for me to speculate is just as bad as the speculation in the EIS.

V. Combined Reservoir

In the USEPA EIS there is a map which shows a combined reservoir southwest of MSD site. This is the resorvoir that the MSD would not admit to on December 19, 1974. This reservoir, depending on design, with the proposed treatment plant at Oakton and Elmhurst Roads would compound the problems. One known proposed design for this reservoir at 50 acre surface and an annual potential evaporation rate of 32.66 inches per year, will have an average evaporation rate of about 40,000 pounds of water per hour. A southwest wind across such a reservoir then crossing the treatment plant would have to increase the life span of the air borne bacteria because of the

4/13/75

increased humidity. If such a plan is a possibility, I cannot see how the current EIS can be valid since a reservoir could drastically effect the overall environmental impact.

It is my opinion that a plant built at Oakton and Elmhurst Roads should be inclosed because of the previously stated reasons. Also, from the information presented in the EIS on odor control and considering this location, I believe such a plant should employ incineration of exit gas streams. The cost penalties that are incurred in building such an inclosed plant contradicts my engineering economic principles.

I believe the plant should be built as proposed in the EIS, but with the proper site selected. This site should be remote to existing residential areas; thus, allowing for the natural decay and dilution of the pathogen containing aerosols. It is my opinion that a minimum of ½ a mile should be adequate for most normal conditions.

It is my opinion that it is wrong to build a treatment plant on the basis that we don't know if there is a problem, but in the future if there is a problem, we will try to correct it.

Yours truly,

William H. Radcliffe

William H. Radcliffe, P.E.
State of Illionis
Number 62-32570
Date April 18, 1975

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2. Response to Mr. William H. Radcliffe

I. Site Location - See Chapter 3 Section C, and Chapter 5 Section B, C, K and L.

II. Sewer Detention Time

It is theoretically possible that low flow conditions could prevent adequate scouring of the proposed tunnels and thereby allow some deposition to occur. We believe, however, that low flow conditions will not cause odor problems at the WRP given the odor control planned.

III. Ozone for Odor Control - No comment necessary.

IV. See response to I.

V. Combined Reservoir - See Chapter 1, Section E.

Richard J. Maggio
Registered Professional Engineer
State of Illinois
1270 Leslie Lane
Des Plaines, Illinois 60018

3. Richard J. Maggio

April 19,1975

ENVIRONMENTAL PROTECTION AGENCY
RECEIVED
APR 21 1975
PLANNING BRANCH - Region V
FILE NO.

Mr. Kent Fuller
Plannin g Branch
United States Environmental
Protection Agency
Region V
230 South Dearborn St.
Chicago, Illinois 60604

Dear Mr. Fuller:

I have reviewed the Draft of the Environmental Impact Statement dated March, 1975 for the MSDGC O'Hare Water Reclamation Plant And Solids Pipeline and my comments, which I would like incorporated into the notes of the March 31, 1975 meeting, are as follows:

1. In the operational Impact - air quality section (page ii) the use of the words "occasional odors", "expected to be infrequent" and "aeration tanks will generate a 'limited quantity of aerosals' containing bacteria and virus particles" brings to mind an old engineering slogan. If something can happen, it will happen. In my experiences, I have found that this slogan can be extrapolated to say, If something cannot happen, it probably will happen infrequently; If something is expected to happen infrequently, it just may happen fairly often, too often.

2. Pages 1-6 and 1-7 address the present problem of overload of the North Side Sewage Plant during wet weather and resultant discharge of raw sewage into streams and backup into basements, I would certainly welcome a permanent solution to thid problem, however, the draft statement fails to adequately provide data indicating any of the following basic criteria:

a. Information proving that the Northside Plant is, in fact, approaching overload for dry weather conditions.

b. Assuming that the Northside Plant is only overloaded during wet weather, it becomes apparent that other techniques could be employed rather than the costly method proposed for the O'Hare area for contending with storm water only. The coverage of alternatives other than the proposed WRP has been , for the most part, avoided. I should like to know why. My feeling is that one does not put in a complicated and expensive bucket conveyor system for transporting water to replace an undersized hose. Certainly, the EPA and/or the MSDGC should be certain that the equiva- of this is not happening here.

c. I am not satisfied with the lack of any data or assurance, whatsoever, that the proposed O'Hare WRP will, in fact, solve the problem of overflow and backup of raw sewage into basements and streams. Whether it is felt that seperate sanitary and storm sewer or storm water reservoir systems are economically practicable or not, I would like to see some cost figures generated for these alternatives. Appendix A and C does not provide adequate coverage. I wpuld certainly expect the MSD to prove beyond a shadow of a doubt that their proposed WRP will at least handle a maximum credible rain storm with no discharge or backup of raw sewage into streams or homes.

3. On page 2-1, It is shown that Des Plaines has the 2nd highest population of the entire 58.2 square mile service area. I certainly do not object to a WRP in Des Plaines. What I do object to is the frequent and non-justified statement made throughout the draft report that "WRP's must be located in high population zones." I would like this statement to be justified and have adequate cost and operational effectiveness data and analysespresented qualifying this philosophy. I refer you to the nuclear power plants which was recently disallowed on the Indiana Dunes portion of Lake Michigan because of the esthetic and health aspects. I also refer you to the similar claims made by the nuclear industry in regard to their perfect record of never having had an incident in which a life was lost or disease inflicated upon a human being duo to the operational malfunction or accident in a nuclear plant. Nuclear plants, even with their excellent safety record, are. forced to be placed in low population zones andwith a very large buffer zone between the plant boundary and residential areas. Why so much attention is given to the location, design, and operation of nuclear power plants and such little attention to sewage plants is beyond me. Unlike the nuclear industry, the sewage treatment industryappears to take the attitude that precautions will not be taken until a major incident occurs and many people are seriously affected by a plant malfunction or accident. These occurences should be anticipated andthe site and plant design fixed accordingly.

4. On page 2-21, It is mentioned that "no endangered or rare species --- are known to be present in this area." I wholhheartedly disagree with this statement. My son and daughter are the only ones I have; how rare can you get. Let's give as much attention to people, particularly children and infants who are highly susceptible to disease. Although I do not know much of physiology, medicine, and health, I must ask how many people will contract disease due to the WRP which are not publicized as related to or caused by the WRP. It seems that although nobody dies from "sewage-itis", many people contract deseases due to the complicated physiology between germ (sewage) and man. I would certainly not want to feel the MSD compromised an unknown quantity of childrens lives for a few dollars.

5. Page 2-26 states that "air quality in the vicinity of the project sites is severely degraded because of the proximity to O'Hare Airport." I must say that the proposed area is particularly plagued by air pollution from the airport, too many restaurants, shopping areas and resultant pollution from auto traffic and noise. Mr. B. T. Lyman of MSDGC states in his letter dated Feb. 11, 1975 that " it is somewhat incongruous that the district must respond to concerns associated with emissions from aircraft operations." Mr. Lyman should be informed that we are not dealing here with life-in-a-goldfish-bowl. The total health aspect picture must be analyzed, not the adequacy of one piece of equipment, one process, or even one WRP.

6. In regard to chapter 3, section A on capacity of the proposed WRP, insufficient data concerning plant design vs. capacity of various sewage treatment plants throughout the country is presented. The plant is a very large capacity plant and most research, both pro and con has been conducted on plants much smaller in size. We can certainly expect the health

hazards and odor problems to grow at least in direct proportion to size unless a great deal more air confining and purification features are designed into the plant or larger buffer zones employed between the plant boundary and residential areas (or preferably both).

7. On page 3-10 and 3-11, site selection criteria are presented. It is very striking that the health aspects of an adequate buffer zone are not mentioned. I would think this should be the most fundamental criterion in selecting a site. I would certainly think an organization such as the EPA (if not the MSDGC) would agree. I'm fully aware that sewage treatment plants have, in the past, been located in high population zones and with little or no buffer zone. However, I believe this lack of consideration for people near the sewage plants by the plant owners wasone of the reasons the EPA was formed; to protect us from such negligence and lack of concern. The fact that the applicant owns a piece of property should not affect the decision of the EPA. The MSDGC should be made to reevaluate each of the 9 sites objectively. Answers such as "the availability of --- sites is unknown" or "The airport authority appears to be opposed to the construction of a sewage treatment facility on its land" as stated on page 3-17, are strictly inadequate. The airport would benefit from the WRP, the plant will be low profile and in no way can interfere with flight operations, and if it is as esthetically pleasing as the draft statement claims, it should actually improve the ugly terrain around the airport. The area presently looks like a slum, and I can't think of a better site for this WRP.

8. I'm not very impressed with the statement on pages 3-17 that the "construction of the WRP should occur as soon as practical", since for the past 10 years the people of Des Plaines have resisted construction on the proposed site 1. The MSDGC has stubbornly insisted on this site and against the wishes of the City, went ahead and purchased the site. If they had given at least a little consideration to the people living near to the site, they could have had their plant built already.

9. If sewage treatment plants are necessary "as an economic stimulus to the local and national economy", why is the MSDGC so intent on building a "minimum feature" treatment plant on a most convenient and ecologically inadequate plant site? I admit that a better design on a better site would cost more, but all the better for our economy.

10. The inadequacy in the Environmental Inpacts of chapter 5 on Air Quality are apparent. All sorts of problems concerning odors and aerosol generation are discussed and several techniques presented which could mitigate their effects. Then the EPA states that although there is much scientific evidence indicating health hazards generated by sewage treatment plants, the evidence must be put "into perspective in terms of public need". Now, I ask you, why should research be performed if regulatory agencies totally ignore the evidence. The EPA is essentially saying, don't confuse me with the facts, my mind is already made up. True, an "interpretation at this time is not in the interest of everyone concerned" but an interpretation by the EPA should be made in performing the duties made law under the Environmental Protection Act since no-interpretation is certainly not in the interest of anyone living near the WRP.

11. The EPA has no right to state (pages 5-22) that "Immunization by inhalation of small quantities of pathogens may protect us from disease". I wonder what the Surgion General would say about the MSD appearing to practice licen medicine on a mass scale with vaccines unknown in nature.

12. In the EPA findings on pages 5-32, how can the "present buffer zone be adequate" when there is literally no buffer zone at all? In addition, stating that covering of the plant is unnecessary for "plants of this size", I again remind the EPA that this is not a small plant. Allowing an uncovered plant of this size is certainly not "protecting" anyone.
13. Appendix D questionnaires certainly present a great deal of evidence on the O'Hare WRP, pro and con. It appears that the EPA dismissed all of the con in their evaluation and preliminary approval of the plant. I feel more interpretation of these questionnaires should be performed by the EPA.
14. In appendix I, page I-7, the MSDGC admits that buffer distance is very important in site location by dismissing the Randall and Ledbetter findings on the basis that only a 100 ft. distance was employed in the research. What was the capacity of the plants studied? Why have they totally disregarded buffer distance in the site location of this WRP?
15. In regard to the Plotkin and Katz findings that "the virus particle must come in contact with a susceptible cell", I am sure that a certain percentage of virus particles will come in contact with a certain percentage of susceptible cells (people). We can't change the quantity of susceptible cells but we certainly can minimize the quantity of virus particles through proper site location and plant design.
16. On page I-13, the MSDGC claims that "sewage treatment plant workers are healthier than workers in other industries". I am sure the MSD has very stringent health requirements for employment and that their claims are probably true. I wonder what percentage of sewage plant workers are infants, young children, and senior citizens who are less immune to WRP plant aerosols?
17. In appendix N covering Plant Design Criteria, it appears that certain plant deficiencies such as inadequate buffer zone, location of plant in high population area, and design of plant with no confining of aerosols and minimal treatment of aerosols with ozone is to be compensated for by the chlorination of raw sewage. I would like to point out that analytical instrumentation such as residual chlorine analyzers are not highly reliable and I would expect frequent over-chlorination and under-chlorination of the raw sewage in this plant. Over-chlorination would tend to produce a chlorinated aerosol from the aeration tanks and resultant eye irritation to nearby residents. Under-chlorination in turn would increase pathogen levels in the aerosols. I believe simply relying on chemical treatment of raw sewage and aerosols is inadequate and further that all possible aerosol generators in the plant are not handled by the ozone units supplied. In addition, I would like to see further proof that ozone will not only mask odors but will reduce the amount of pathogens in the primary plant aerosols. I believe we should remove, not cover up, all plant emitted pathogens.
18. In regard to on-site power generators, I would like to know whether sufficient power is available, on loss of offsite power, to operate plant at sufficient capacity to handle the influent from a severe rain storm. If the on-site power system is not adequately sized for severe rain storm capacities, we can certainly expect that the flooding, discharge and sewage backup problems have not been completely resolved even assuming the storm water reaches the plant intake at sufficient rate to avoid flooding and backup.
19. The limiting factor in flood control may not be WRP plant capacity but the capacity of all main and branch conduits leading to the WRP. Before flooding can be effectively controlled, a thorough study of all sewer mains in the entire service area must be made. If this is not done, the flooding of homes can be expected to continue. I feel the entire service area population is possibly being deceived that this WRP is a cure-all. The problem is certainly not that simple.
20. I'm not satisfied with the MSDGC claim that the HUD-FHA will lower their standards, in regard to isolation distances, to comply with MSDGC design.

The MSDGC should be forced to comply with HUD-FHA requirements, not have the HUD-FHA lower it's standards. These standards were established for certain reasons and if these standards are to be violated, the MSDGC should be made to provide detailed justification and adequate proof that the basis for the standards are erroneous. The MSDGC certainly has not adequately addressed HUD-FHA isolation distance standards.

In conclusion, I would like to add that the 3 year construction period could easily be extended if certain problems arize. The service area is in bad need of flood control measures and I don't feel we can wait 3 years or longer for this flood relief. Other more expedient alternatives need to be studied.

In addition, any facility that is provided should be designed to give maximum environmental protection to neighboring residential areas. Later backfitting of more effective environmental control features is totally inadequate for 2 reasons. First, the plant (unlike other types of industrial facilities) cannot be shutdown until remedial measures are taken. People will be forced to suffer until the measures are completed. Secondly, the remedial measures will take a considerable amount of time for completion.

I believe if there is any possibility of the need for more environmental controls, they should be incorporated into the initial plant design and I might add that confining and removal of dangerous pathogens from plant aerosols appears called for on the basis of other plants in existence. There incorporation now would certainly be more cost effective than backfitting at a later date.

Lastly, if the MSDGC plant design and location is suspect, one might also lack confidence that the plant would be operated with any greater degree of conscientiousness and concern.

Based upon the above, it is apparent that although the plant may be designed and plant site land purchased, the MSDGC has grossly failed, by their own admission, to consider the total "environmental picture" into their design criteria.

I believe the EPA should favor a conservative plant design and site location where a great deal of environmental unknowns are present rather than favoring the proposed design and site location. I believe an organization sticks its neck out when they make a decision in favor of economy and convenience where a great deal of public health and welfare implications exist. A decision by the EPA in favor of a more conservative design and site location would certainly remove much of the fear and doubt of nearby residents and maintain the creditable reputation the EPA presently has.

With confidence that the EPA will make a decision, on this matter, in favor of our environment, I remain,

Very truly yours,

Richard J Maggio

Richard J. Maggio

RJM/CMM

cc: Francis T. Mayo
Harlan D. Hirt
Valdas V. Adamkus
Richard F. Ward
Alan M. Abrams
Philip M. Crane
William J. Scott

3. Response to Richard J. Maggio

1. Any biological process is capable of being upset. With respect to the operation of a WRP, excessive concentrations of heavy metal could cause a biological upset and a temporary odor. Since the influent sewage is primarily municipal and ordinances control influent concentrations of industrial wastes, biological upsets are not expected but cannot be completely ruled out during the life of the facility.

2. See Chapter 1, Section E and Chapter 3, Sections A and B.

3. In the site selection and EIS process, we have followed the requirements of PL 92-500 (funding of wastewater treatment plants), NEPA (PL 91-190) and USEPA regulations.

4. We agree that one's children are most precious and have considered the potential health problem question. (See Chapter 3, Section C and Chapter 5, Sections A, B, K and L.

5. No comment necessary.

6. See Chapter 5, Section B.

7. See response to question #4.

8. No comment necessary

9. See response to question #4.

10. See response to question #4.

11. No comment necessary.

12. There is a buffer zone.

13. USEPA is requiring facilities to suppress aerosol movement from the site as a precautionary measure.

14. MSD would have had a larger buffer zone if the City of Des Plaines had abandoned Wille Road.

15. See response to question #4.

16. No comment necessary.

17. Prechlorination is being provided for the purpose of mitigating any potential odor problem and not to prevent pathogens from being aerosolized. The mitigative aerosol suppression facilities will be sufficient to avoid any potential health hazard.

18. Sufficient backup power shall be provided .

19. USEPA is not building the WRP and conveyance system to control flooding, but for water pollution abatement.

20. See Chapter 5, Section C for HUD - VA discussion.

The summary comments of Mr. Maggio have been addressed in the Final EIS.

C. Letter Comments

Office of Water Program Operations
Comments on
Pre-Draft Environmental Statement
O'Hare Water Reclamation Plant
Des Plaines, Illinois

1. The statement contains much valuable data on the project. As presented in the statement, however, it is difficult to locate specific items of required information. Section 1500.8(a) of the CEQ Guidelines (40 CFR 1500) defines the topics that must be included in an EIS. Although these may be discussed in different order; the discussion of each topic must be easily identifiable. The EPA regulations for EIS preparation (40 CFR 6) contain the same requirements, but are more specific with regard to EPA related subjects.

2. It is stated (pg. 7) that approximately 5000 acres of the 37,250 acres in the Upper Des Plaines Basin are expected to remain unsewered and are not included in the project. The statement should more clearly state the reasons why these lands are expected to remain undeveloped.

3. In the discussion of the flood prone areas, explanation should be provided indicating the flood protection measures for the plant which is situated in these flood areas.

4. It is indicated that the water quality in Higgins Creek is "probably" below state water quality standards (pg. 28). This indicates that we are in doubt about the quality (which could easily be measured). The statement should be reworded to indicate that during storm bypass conditions the runoff pollutes the stream to a point where the standards are violated.

5. On page 66, it is stated that 15 GPCPD is considered excessive infiltration. No information is given, however, whether MSDGC has a program to relieve this flow or whether it has been determined that it is more economical to treat these flows rather than remedy them. This should be discussed.

6. The discussion of site selection mentions the closing of Wille Road which crossed the site (pg. 81). Since this seriously impacts the usable portion of Site 1, further discussion of the disposition of this road should be provided.

7. The statement indicates (pgs. 2 & 127) that the capacity of the proposed plant will be 72 mgd, but on page 68, it is stated that the decision concerning plant capacity has not been made. This apparent discrepancy should be resolved.

8. Some ambiguity exists in the discussion of the Higgins Creek modifications (pg. 129). The discussion should more clearly differentiate between existing and proposed conditions and should give a more detailed description of the proposed storage and channel facilities.

9. The proposed plant will divert flows from Weller Creek and Feehanville Ditch to Higgins Creek. A discussion should be provided concerning the expected impacts on Weller Creek and Feehanville Ditch when this flow is removed and upon Higgins Creek when the flow is increased. The discussion should include conditions of low flow as well as peak flows.

10. It is noted that ozone is to be used for odor control (pg. 141). The impacts of this ozone on the plant operators were not discussed. No discussion was provided concerning the noise levels within the plant and the impacts upon the workers.

11. The conveyance system and the storm water storage facilities are discussed in a separate EIS. The odor problems from the storage pond may have significant influence upon the site selection for the treatment plant, particularly with respect to both sites owned by the MSDGC. Therefore, a further discussion of the interrelations between these sites and the impacts from the storage facilities should be provided.

Responses:

1. The specific sections referenced in the regulations have been included as Section I,J, and K of Chapter 5.

2. There are actually 41,382 acres in the service area. The 5000 acres which will remain unsewered consist of land uses as forest preserves, cemeteries, military reservations and designated open space areas.

3. This discussion is included in Chapter 4.

4. Higgins Creek is not subject to combined sewer overflows. Additional water quality data is contained in Appendix T.

5. The MSDGC will take any necessary action to relieve excessive infiltration.

6. The proposed project has been designed with the assumption of Wille Road remaining in place. If the City of Des Plaines had vacated Wille Road it might have been possible to locate the water reclamation plant further south on Site 1.

7. The discussion of plant capacity (Section B, Chapter 3) has been revised.

8. These changes have been reflected in Chapter 4.

9. While the combined sewer overflows will be reduced from over 80 to 6 per year, this will not have an adverse effect on Weller's Creek or Feehanville Ditch. The increased flow in Higgins Creek will be easily accomodated since the channel is being modified to handle 100-year storm events. The plant effleunt would only be a small portion of such a flow in wet weather.

10. Ozone will not have any impacts on the plant workers since the only exhaust from the ozonation system is to the atmosphere. This will be monitored and controlled so that the exhaust concentration of ozone will not exceed the detectable level. The noise levels in the plant will be maintained below OHSA standards.

11. Chapter 1, Section E contains a discussion of why we believe the combined sewer overflow reservoir can be separated from the projects presently under consideration.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
P.O. Box 678, Champaign, Illinois 61820

April 9, 1975

Mr. Francis T. Mayo
Regional Administrator
U. S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604

ENVIRONMENTAL PROTECTION AGENCY
RECEIVED
APR 11 1975
PLANNING BRANCH - Region V
FILE NO.

Attention: Planning Branch - EIS Unit

Dear Mr. Mayo:

The draft environmental impact statement for the proposed Metropolitan Sanitary District of Greater Chicago O'Hare Water Reclamation Plant and Solids Pipeline in Cook County, Illinois, was forwarded to the Soil Conservation Service on March 4, 1975 for review and comment.

The proposal refers to levee and berm construction. The Soil Conservation Service has standards and specifications for establishing vegetative and woody plantings which may be useful in contracting.

If land application is selected for disposal of solids, a conservation plan for the site is extremely important. Such items as the soil type, slope, erosion, cropping system, conservation practices and other such items must be considered in planning such an operation.

The local Soil and Water Conservation District, with assistance of the U. S. Soil Conservation Service and other cooperating agencies, provide this type of conservation planning assistance.

Contracts for construction of the proposed facilities and spoil deposition should include erosion and sediment control as a requirement.

If there are questions concerning the soils, fertilization, herbaceous and woody plantings, or any soil and water conservation practice, don't hesitate to contact the U. S. Soil Conservation Service District Conservationist.

We appreciate the opportunity to review and comment on the proposed project.

Sincerely,

Arlon L. Hanson, Acting
Daniel E. Holmes
State Conservationist

Response:

Land application of sludge will be practiced. At the present time, the MSDGC is applying sludge on strip-mined land in Fulton County, Illinois. A comprehensive land use and water quality control plan is prepared for each site used in the Fulton County area.

MSDGC contracts routinely contain erosion and sedimentation control measures.

DEPARTMENT OF THE ARMY
CHICAGO DISTRICT, CORPS OF ENGINEERS
219 SOUTH DEARBORN STREET
CHICAGO, ILLINOIS 60604

NCCPD 22 April 1975

Mr. Francis T. Mayo
Regional Administrator
Region V
U. S. Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois 60604

Dear Mr. Mayo:

This is in response to your letter of 4 March 1975 requesting comments on the Draft Environmental Impact Statement (EIS) for the proposed Des Plaines - O'Hare Water Reclamation Plant (WRP) and Solids Pipeline.

Our comments have been restricted to only those items which we feel will clarify or add to the understanding of the proposed action. The adequacy of the treatment process design is considered a matter outside the purview of the Corps. It is assumed, however, from the statement on page 4-2 of the draft EIS that the discharge from the O'Hare WRP will comply with the water pollution regulations adopted by the Illinois Pollution Control Board in July 1973 and approved by your office.

Chapter 4, Description of the Proposed Action, should be expanded to include a discussion of the restrictions on the type and concentrations of pollutant loadings discharged into the sewer system. It is our understanding that the treatment plant is designed to achieve an effective control of only three pollution constituents; namely, the biochemical oxygen demand, suspended solids and ammonia nitrogen. The regulatory control of discharge to the sewers is needed to comply with the effluent and stream standards for all other polluting constituents. This type regulatory control is particularly important in view of the projected industrial development within the service area. Moreover, it is not clear whether or not provisions for in-stream aeration are included as part of the plant design in order to insure compliance with the water quality standards for dissolved oxygen.

A statement should be included in the discussion on projected design flows to clarify if the population projections are in consonance with the official state estimates prepared by the Illinois Bureau of the Budget as the basis for resource planning. In evaluating the cost-effective tradeoffs in sizing the plant, consideration should be given to the dewatering rate and the duration of the period when the water level in the tunnel would be higher than the surrounding ground water (See page 5-12 of the draft EIS for the proposed tunnel conveyance system in the Des Plaines - O'Hare Service Area). This could be a major problem with construction of the main reservoir deferred.

The disposal alternatives for the sludge from the John E. Egan WRP should be discussed in greater detail in the EIS. The discussion should cover the availability of possible disposal sites, the cost of shipping the sludge and public acceptance of the individual alternatives. The potential for incorporating the sludge into the existing MSDGC Fulton County Reclamation Program should also be assessed and the comparative (to the other alternatives) beneficial as well as adverse impacts identified along with the reasons for eliminating such an alternative.

No information is provided on the environmental impact of the project relative to the affected aquatic ecosystems. The EIS should discuss the existing aquatic ecosystems and describe any expected changes in both Higgins and Willow Creeks and the Des Plaines River. Such discussion should include not only the type and quality of future fisheries but also the change in flow regimen and the potential for both in-stream and bank erosion.

The opportunity to review the draft EIS is appreciated.

Sincerely yours,

James M. Miller

JAMES M. MILLER
Colonel, Corps of Engineers
District Engineer

Response:

The MSDGC has ordinances prohibiting or limiting the discharge of certain materials, which could upset the treatment process, to their system.

Instream aeration is not needed in this project to maintain compliance with water quality standards.

The population projections are in consonance with the projections of the A-95 clearinghouse, the Northeastern Illinois Planning Commission.

Discussion of the plant size has been revised (Chapter 3, Section B).

The sludge from the John E. Egan Plant will eventually be land applied in Fulton County, Illinois. We agree that the environmental impact of this proposed sludge disposal method should be addressed. We intend to prepare an EIS, specifically on the land application project in Fulton County.

No biological sampling has been conducted on the streams in the project area. The IEPA will begin some biological survey work on Higgins Creek this summer.

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
CHICAGO AREA OFFICE
17 NORTH DEARBORN STREET
CHICAGO, ILLINOIS 60602

REGION V
100 South Wacker Drive
Chicago, Illinois 60606

May 6, 1975

IN REPLY REFER TO:
5.2PP (Goldfarb)

Mr. F. T. Mayo, Regional Administrator
U. S. Environmental Protection Agency
Region V
230 South Dearborn
Chicago, Illinois 60604

Dear Mr. Mayo:

The Chicago Area Office of the Department of Housing and Urban Development appreciates the opportunity to review the Metropolitan Sanitary District of Greater Chicago's EIS for the O'Hare Water Reclamation Plant and thereby recognize the responsible manner in which the MSD is planning to meet the needs of Greater Chicago. In reviewing the EIS we were impressed with both the comprehensive manner in which the MSD is meeting its demands and with the careful design of this particular plant. We also appreciated the fine work the USEPA did in preparing this EIS, particularly the sections on process and solids handling alternatives. The USEPA seemed to identify several alternatives which might be attractive for future use and it is hoped that their dissemination in this form will prove to be the first phase of a planning cycle that will lead to their eventual implementation.

Although the design of the plant seems to have given careful consideration to the potential for adverse environmental impacts we were struck by the lack of such consideration in the site selection criteria listed on pages 3-10 and 3-11 of the EIS. Such consideration would seem appropriate as both odor and aerosol concentrations seem to be inversely proportional to a geometric function of distance from the plant. The absence of environmental impact considerations from site selection criteria would be justified if possibilities of both odor and aerosol generation were eliminated. This has not been demonstrated possible nor claimed in the EIS. It therefore seems inappropriate that the site closest to a residential was ultimately chosen.

The EIS prepared by the USEPA seems to indicate that there will be no adverse impacts from construction of the proposed facility. In the absence of evidence to the contrary we must take this assessment at its face value. We would, however, like to see the alternatives section of the final EIS expanded to include the following points:

> What are the total relative impacts of each site upon residential communities. This might be evaluated by using a system of concentric rings around each source of odors and aerosols and tabulating the number of residential units in each ring. For example, the following

system might be used

ring 1 = 0 - 250' radius

ring 2 = 250' - 400' radius

ring 3 = 400' - 600' radius

ring 4 = 600' - 900' radius

ring 5 = 900' - 1500' radius

ring 6 = 1500' - 2500' radius

Why is the City of Des Plaines refusing to vacate Willie Road? It seems as if this action would significantly increase the attractiveness of this site and therefore merits a full exposition of the relevant issues.

Thank you again for the opportunity to comment on this EIS. We would appreciate receiving a copy of it in its final form.

Sincerely,

John L. Waner
Director
Chicago Area Office

Response: Chapter 3, Section C of this EIS addresses the environmental impact considerations of odor potential and aerosol generation. This is further expanded upon in Chapter 5 (Environmental Impacts of the proposed action) Sections B,C,F,I, and L.

Appendix R contains an analysis of population density from the center of sites 1 and 2 (based on 1,000 foot concentric circles) and is part of the site selection discussion in Chapter 3, Section C.

The City of Des Plaines must answer the question why they are refusing to abandon Wille Road.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

2200 Churchill Road
62706

Springfield, Illinois
Phone: 217/782-5620

Dr. Richard H. Briceland, Director

April 15, 1975

Mr. Gary Williams
United States Environmental
Protection Agency
Planning Branch - EIS Unit
230 South Dearborn Street
Chicago, Illinois 60604

Re: Draft Environmental Impact Statements for MSDGC O'Hare Service Area Wastewater Conveyance System and O'Hare Water Reclamation Plant and Solids Pipeline

Dear Mr. Williams:

The Agency has reviewed copies of the two Draft Environmental Impact Statements according to provisions of the National Environmental Policy Act. The Division of Water Pollution Control indicates that the final EIS should adequately cover comments of local interests to be submitted at the public hearings. We offer no other comments at this time. Because of the importance of these projects, you are requested to forward the final EIS to our Agency for our information and review.

Should you have any questions regarding our comments, please advise.

Sincerely,

Robert P. Clarke
Operations Coordinator
Environmental Programs

ma

cc: H. Williamson
M. Mauzy

100% recycled paper

STATE OF ILLINOIS

DEPARTMENT OF CONSERVATION
605 STATE OFFICE BUILDING
400 SOUTH SPRING ST.
SPRINGFIELD 62706

ANTHONY T. DEAN
DIRECTOR

HAROLD L. ELLSWORTH
ASSISTANT DIRECTOR

CHICAGO OFFICE—ROOM 100, 160 N. LA SALLE ST., 60601

April 4, 1975

Mr. Francis T. Mayo
Regional Administrator
United States Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604

Dear Mr. Mayo:

The Department of Conservation has reviewed the draft EIS's for the proposed tunnel conveyance system for the Des Plaines-O'Hare Service Area and the proposed Des Plaines-O'Hare Water Reclamation Plant and Solids Pipeline.

Both EIS's indicate the project will cause adverse impacts to Higgins and Weller's Creeks. Since these creeks are presently degraded by pollution and channelization and do not maintain a significant fishery, the Illinois Department of Conservation believes the project's projected improvement in water quality will far outweigh any minor adverse impacts associated with the projects.

Sincerely yours,

Bruce A. Rogers

Bruce A. Rogers
Supervisor,
Division of Long-Range Planning

BAR:af

cc: Al Lopinot
Harry Wight

ENVIRONMENTAL PROTECTION AGENCY
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Village of Mount Prospect
OFFICE OF THE MAYOR
112 E. Northwest Highway Mount Prospect, Illinois 60056

Robert D. Teichert
Mayor

Phone 312 / 392-6000

ENVIRONMENTAL PROTECTION AGENCY
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APR 3 1975
PLANNING BRANCH - Region V
FILE NO.

March 31, 1975

United States Environmental
Protection Agency - Region 5
230 South Dearborn Street
Chicago, Illinois 60604

Attention: Harlan D. Hirt, Chief of Planning

Dear Mr. Hirt:

Since I will be unable to attend the public hearings being held today regarding the Metropolitan Sanitary District O'hare treatment plant, I should like to use this letter as a means of placing my comments and observations as the Mayor of the Village of Mount Prospect before your agency.

While I can be sympathetic with the viewpoint of those who are objecting to the installation of this facility on the basis that it will adversely affect the local environment, I do not believe such sympathy requires that I ignore the existing and known health hazards in deference to speculations as to what might be. Inadequacies of the present MSD facilities for removing sewage from our community have well been documented over the past ten years ... it is the same for our sister communities, Elk Grove Village and Des Plaines. The inability of the MSD interceptors to handle our accumulated sewage results in raw sewage being overflowed into our creeks and drainage ditches and backed up into the basements of our residents.

For seven years the means to resolve this major area problem has been at hand, but the specter of bad environmental impact has been used to delay the implementation of this most needed facility. No one can convince me that untreated raw sewage stored in the basements of residences and spread across the open land is preferable to storage of such sewage in controlled circumstances. Unless your agency can assure our citizens that the storage of raw sewage in and about our properties is a lesser health hazard than the storage of such sewage at the O'hare treatment facility, I would believe it mandatory that you approve this facility for immediate construction.

The citizens of the communities in our area have long enjoyed a dream world existence where by the flick of a handle they could transport their sewage into Chicago for treatment and disposal. We have refused to cooperate with each other and the MSD on sewerage or flood control matters, particularly if it would cost us our own money. The disposal of sewage and solid waste materials is of little concern to us so long as we can dump it in somebody else's backyard ... when it is our own backyard, we become quite concerned. If each community was required to collect and treat its own sewage within its own boundaries, I wonder if the standards we demand of others would be exacted from ourselves.

Certainly we should not through undue haste create new problems when we solve old problems, but the seven years of delay on this project with the multitude of hearings and court cases can hardly be considered "hasty". If there is going to be continuing delays, it would seem that those responsible for such delays should be required to compensate the citizens of our communities who suffered damage due to sewage backup.

I do not believe that a project designed via established experts in the sanitary field can be so patently deficient as to warrant the attacks being made on this project. If after seven years the "alleged" deficiencies have escaped the notice of the Federal experts, I would suspect that political pressure is now replacing reason. We are not considering a beautification project for the area, but a much needed reclamation plant to treat our own sewage in a controlled and healthy manner.

Our citizens will no longer tolerate the stench of putrifying raw sewage nor will we continue as spectators while the sewage backs up into our basements and recreation rooms. We have a present health hazard ... there is a solution at hand ... further delay is unwarranted unless it can be proved that the proposed facility will present a greater health hazard.

Please enter these comments in the record of your proceedings.

Very truly yours,

Robert D. Teichert

chicago
audubon
society

(Chapter of the National Audubon Society)

6414 N. Ridge
Chicago, Illinois 60626
(312) 262-1716

Founded by
R. Sethuraman
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ENVIRONMENTAL PROTECTION AGENCY
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APR 18 1975
PLANNING BRANCH - Region V
FILE NO.

7522 East End Avenue
Chicago, Illinois 60649
April 17, 1975

Francis T. Mayo
Regional Administrator
United States Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604

Dear Mr. Mayo:

Enclosed you will find our comments on the Environmental Impact Statements for the following projects:

Metropolitan Sanitary District of Greater Chicago
O'Hare Service Area Wastewater Conveyance System
O'Hare Water Reclamation Plant and Solids Pipeline

We appreciate the opportunity for this review.

Sincerely,

Marjorie Molyneaux

Marjorie Molyneaux, Chairman
Conservation Committee

ENVIRONMENTAL IMPACT STATEMENT

METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO
O'HARE SERVICE AREA WASTEWATER CONVEYANCE SYSTEM
O'HARE WATER RECLAMATION PLANT AND SOLIDS PIPELINE

In responding to the environmental impact statements for the above projects we would like to state at the outset that we support the two plans, in principle, and we believe that they are a big step forward to improve the total water quality of the area. However, our review of these projects would be more understandable to all if we were asked to first respond to the total project and then to the remaining seven of its parts. This plan would give the reviewer the opportunity to judge the impact on the environment of the total program rather than to respond piecemeal for each separate part. Without this complete understanding we will respondto the individual projects separately.

O'Hare Service Area Wastewater Conveyance System

We are concerned about the disposition of the rock and debris removed when digging the tunnels. What is to be done with it, and how long will it remain there?

We would like to see positive statements about measures to be taken regarding:

- Noise pollution abatement
- Heavy drilling effects
- Effect on private wells and supplies of water to those property owners during construction - even though monitoring will be done
- Sealing of drop shafts to prevent aerosol release at top of shafts
- Reduction of particulate matter levels from blasting and excavation
- Restoration of the habitats for plant and animal life by replacing or replanting vegetation to its original state
- Incorporating ways to increase the retention time in the pond to reduce siltation into Higgins Creek during construction

As combined sewer overflows to Weller's Creek and Feehanville Ditch are reduced from 80 per year to 6, water quality in these streams will improve and will serve to encourage indigent plants and small animals to reestablish in the area.

O'Hare Water Reclamation Plant and Solids Pipeline

From our review of the proposal we feel there is more concern for the aesthetic value of the plant and its surroundings than the biological impact on the area. The fact that so little is known about the effects on public health of bacterial and viral respiratory pathogens should cause the Metropolitan Sanitary District to promote or to assure that others will promote increasing research in these areas in order to solve specific problems. Giving rewards to scientific leaders for their accomplishments and setting up future rewards for work to be done is one method which could be used. Innumerable others would be of value so that we no longer have to say that scientific knowledge hasn't uncovered the answers.

We are concerned with the impact of the plant on Higgins Creek, the nearby forest preserve and the flood plain - the biological effects on the population of the area, on the local traffic flow through and the size of the buffer zone around the plant.

Marjorie Molyneaux, Chairman
Conservation Committee
Chicago Audubon Society

Response:

The impacts of the proposed water reclamation plant on Higgins Creek are discussed in Chapter 5, Section A. The proposed pipeline through the forest preserve should have little impact since the proposed route follows an existing pipeline right-of-way. Discussion of the other concerns mentioned can be found in Chapter 5.

Sierra Club

GREAT LAKES CHAPTER

930-10 E. Shady Way
Arlington Hts, IL 60005

April 18, 1975

'75 APR 23 AM 10.05
MGT. DIV. - GAB

Mr. Francis T. Mayo
Regional Administrator
U. S. E P A
230 S. Dearborn Street
Chicago, Illinois 60604

Subject: O'Hare Water Reclamation Plant & Solids Pipeline Project

Dear Mr. Mayo:

We have examined the environmental impact statements concerning the O'Hare Water Reclamation Plant and associated Solids Pipeline Project proposed by the Metropolitan Sanitary District of Metropolitan Chicago. The Sierra Club gives its approval to both of these projects contingent upon the continued awareness and action on the part of the MSDGC to eliminate any environmentally hazardous consequences of the construction and operation of these projects.

The expected growth of the population and industrial activity of the area serviced by the proposed projects will be accompanied by increasingly larger wastewater loads. This, together with the very limited assimilative capacity of the receiving waters in the area, along with the Water Pollution Control Regulations of Illinois (effective December, 1977) require that some type of wastewater treatment system be developed for the region. It is the opinion of the Sierra Club that a reasonable analysis of the problem was presented in the Environmental Impact Statements, and that fair and rational judgement was used to decide the best possible alternatives to the problem.

While construction and operation of the proposed projects present some environmentally undesireable consequences, they are far outweighed by the potential benefits. Nevertheless, every possible thing should be done to limit or eliminate these undesireable side effects. Areas of special attention include:

1) Potential health hazards of air borne pathogens. The existing

evidence, while very incomplete, implies that airborne pathogens pose no significant health problem. However, the MSDGC must be prepared to control the aerosol emissions from the WRP if future evidence and/or resident complaints show that, indeed, airborne pathogens do present a dangerous health problem.

2) Odors - Evidence is given that the odors generally associated with a sewage treatment plant occur only under conditions of overflow or bypass, during sludge treatment, or as the result of poor maintenance and operation procedures. The O'Hare WRP is designed with sufficient design capacity and backup facilities to prevent the overload or bypass situations. The plant does not have sludge treatment facilities. Attention must be given by the MSDGC to maintain high standards in the operation and maintenance of the system so as to not create situations which will cause odor problems. The MSDGC must be prepared to eliminate any odorous emissions if such emissions do, in the future, become a problem.

3) The ultimate site of sludge disposal - while sludge disposal will be outside the service area of the O'Hare WRP, it must be considered an integral part of the project. The MSDGC must be prepared to handle the sludge disposal problem in an environmentally acceptable manner.

4) Every effort must be made to make the WRP project aesthetically pleasing.

5) Every effort must be made to eliminate disturbances caused by the construction of the O'Hare WRP and the associated Solids Pipeline. Residents should be compensated for any damages or costs attributable to decreased water quality or any loss of property resulting from construction of the project.

6) Disposal of excavated material - The MSDGC must be prepared to dispose of the material excavated from the Solids Pipeline Project in an environmentally and economically acceptable manner.

If the MSDGC maintains a constant vigilance over the above environmental concerns, the Sierra Club must then give its approval to the entire project.

Very truly yours,

Ann Fisher

Ann Fisher
Conservation Chairman

Response:

Both the aerosol and odor questions are addressed in Chapter 3 and 5. Mitigative measures are planned to suppress the movement of aerosols. Odors will not be a problem given the extensive odor control measures which are proposed. Other aspects of the submitted comments are discussed in Chapter 5.

April 12, 1975

US Environmental Protection Agency
230 S. Dearborn Street
Chicago, Illinois 60604

To Whoever Will Listen,

As a father who lives in the proposed sewerage treatment area (within ½ mile) and whose family would be the ones subjected to any health hazard or ill effects of this project, I wish to voice my protest against the O'Hare Water Reclamation Plant at the proposed site.

I do so with the persistent feeling that my objections and those of my neighbors' are only a waste of our time and energy. I feel the Metropolitan Sanitary District and the USEPA have already decided what best serves our needs and the Public Hearings are only window dressing to give the public an appearance of listening. I write this letter in the hopes that I am wrong.

I have been following the pros and cons of this proposed project, depending primarily on my neighborhood paper for most of my information. When I learned the USEPA was holding a Public Hearing on March 31, 1975, I attended to determine in my own mind what effect this would have on my home and community.

I felt this was a very complicated project, consisting of engineering layouts and data, statistical projections, environmental studies, doctor reports and legal rulings, etc., and felt I was not qualified in any way to offer an opinion. After attending the hearing and reading the Environmental Impact Statements, to my surprise, the more I got involved the less complicated it appeared.

Instead of getting lost in all that mumbo-jumbo, I was getting the clear picture, that what this argument boiled down to was, in essence, a determined effort to reassert authority. Would the MSD or any other government agency be able to retain their exclusive right to dictate their pet projects as they saw fit on an unwilling community?

If that is not the reason, then why won't the MSD consider alternate sites away from residential homes? Why won't they sit down with Community Representatives and try to work out a satisfactory compromise?

Why was Site 2 rejected when it's tanks would be 950' further away from residential homes, meets all of their own requirements and is presently owned by the MSD?

Why were Site 3 and 8 rejected because the availability of these sites are unknown? What action, if any, was taken to determine their availability?

With the control devises, the MSD claims this facility will not experience the foul odor problem as they have at other treatment plants and then contradict that statement by claiming it is not possible to judge the exact extent of the potential odor problem from the proposed WRP project.

The MSD states they recognize the infection potential in wastewater aerosols and claims it would be improper to conclude that it will positively result in a public health hazard, but why can't they deny that such aerosols present no potential public health danger? Is it because they can't? They admit they do not realize the full extent of this problem and yet are still willing to jeopardize the health of my children and family to these dangers.

We recognize the need for building proper sanitary facilities, but we also recognize a need for our families to grow in a healthful, pleasant, environment.

Were willing to work with you and the Metropolitan Sanitary District. Are you as willing to work with us?

Respectfully,

Ed Verri

Ed Verri
760 Devonshire Dr.
Des Plaines, Ill.

Response:

As indicated in previous chapters of this EIS, we have made a determination that the MSDGC provide adequate aerosol suppression facilities to restrict the movement of aerosols from Site 1.

MURRY AND MOODY Consulting Engineers - Land Surveyors

933 South Plum Grove Road, Suite 101 • Palatine, Illinois 60067 • Phone: 312 / 358-5960

ENVIRONMENTAL PROTECTION AGENCY
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MAR 31 1975
PLANNING BRANCH - Region V
FILE NO.

March 27, 1975

Harlan D. Hirt
Chief, Planning Branch
U.S. EPA Region 5
230 South Dearborn Street
Chicago, Illinois 60604

Dear Mr. Hirt:

I wish to express my opinion on the question of the proposed construction of the O'Hare Treatment Plant by the Metropolitan Sanitary District to serve the Northwest section of Cook County.

In my professional opinion as a consulting engineer working in the said section, it is no longer a question of if the plant is needed. It is merely an urgent question of when. I hope and trust that permission for construction will be given immediately.

Very truly yours,

MURRY AND MOODY

Thomas A. Moody, Jr., P.E.
je

cc: Mr. A.Y. Talhami
Metropolitan Sanitary District

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN STREET
CHICAGO, ILLINOIS 60604

PUBLIC NOTICE

Notice of Extension of Comment Period

On March 4, 1975, we announced the availability of two Draft Environmental Impact Statements for several projects proposed by the Metropolitan Sanitary District of Greater Chicago. One EIS concerns the proposed tunnel conveyance system for the Des Plaines - O'Hare Service Area, and the other, the proposed Des Plaines - O'Hare Water Reclamation Plant and Solids Pipeline. The deadline for comments on these Drafts was given as April 7, 1975.

In view of the public interest surrounding these projects, proposed EPA regulations and CEQ guidelines, the final date for receipt of written comments is being extended to April 21, 1975. Because of the large volume of comments expected however, we would appreciate receiving comments as early as possible.

Francis T. Mayo
Francis T. Mayo
Regional Administrator

This plant is not needed in Des Plaines because it will not help flooding. If this plant is to be built put it on the airports property or were the barracks used to be on Mannheim Road. Another place to put it would be in some [redacted] MSD board official back yard.

We dont need the odor from this MSD sewage plant, we have enough noise and pollution from airplanes.

Le Roy Ruchowski

Due to circumstances beyond our control page 6-147 is missing from this report.

say try to keep a nice neighborhood
they have other places they could
put this plant where there
are no homes It's ashamed, I
hope a mirakle will happen
to stop this.

Irene Hassen

April 10, 1975

Dear Mr. Hirt,

I am writing this letter in response to the public notice I received in regards to the O'Hare Water Reclamation Plant which is to be located at Oakton and Elmhurst Road in Des Plaines.

It is a known fact that this area is already plagued by the stench of jet exhaust and the ever increasing noise of jet airplanes. We all know this is contrary to a clean and healthy environment. The addition of the O'Hare Water Reclamation Plant can only add to the depletion of our environment through the offensive odors emitted by this plant.

I believe that if the plant were relocated to O'Hare Field or another less populated area the environment would sustain less damage. Therefore, I am vehemently opposed to the plant being installed on this site and request that all funds be withheld from this project.

Sincerly,
John J. Barry
410 Dover Dr.
Des Plaines, Ill.

ENVIRONMENTAL PROTECTION AGENCY
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APR 14 1975
PLANNING BRANCH - Region V
FILE NO.__________

6-149

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Des Plaines, Illinois
April 22, 1975

Mr. Francis T. Mayo, Reg. Administrator
United States Environmental Protection Agency
230 S. Dearborn Street
Chicago, Illinois 60604

Dear Mr. Mayo:

As a concerned citizen of Des Plaines, Illinois, I am writing this letter in regard to the proposed site of the Municipal Sanitary District of Greater Chicago's sewage plant at Oakton and Elmhurst Road.

I, as well as many others, know there is a need for something to be done about the flooding problem which the northwest area has had for many years but I cannot understand why "this location". The site proposed is near homes and how much more pollution can we take is rather frightening.

I cannot understand why this particular site is so in demand by the M.S.D. when they have several others to consider that are just as favorable (if not more so) and are less hazardous to the people living in this community.

I appeal to you as a very concerned mother, housewife and homeowner in the southwest part of Des Plaines. We NEED your support - won't you please help us?

Sincerely yours,

Mrs. John Kucera

Mrs. John Kucera
1085 Perda Lane
Des Plaines, Illinois 60016

cc. Philip M. Crane
Congress of the United States

'75 APR 25 AM 11:12
MGT. DIV. - GAB

FRANCIS T. MAYO
Regional Administrator
230 S. Dearborn St.
Chicago ILL

DONALD S. KRUTO
431 EASY
DES PLAINES, ILL.
[illegible]

ED

'75 APR 11 AM 10:15

MGT. DIV. - GAB

Dear Sir!

In view of my interest as to location for the water reclamation plant and solids pipeline proposed by the metropolitan Sanitary District of Greater Chicago. May I first establish my residense as one and one half miles north of proposed site but my concern is with the pople living closer to the site. Our political represenatives are working very hard expressing objections let me express in general the way I feel. I am living in this area since 1957 and I have seen the Ohare airport pollute this area with noise, black smoke and transmittion interferance so I ask are we the sewer for everything, the surrounding area does not object because the proposed site is not close to them. Please re-concider a new site. Thank you
Donald Kruto

6-151

Dear Sir:

I am writing to you in hope that it is not too late to voice my opinoin on the M.S.D.'s "O'Hare Water Reclamation Plant" which is now being planned for the present site at Oakton and Elmhurst Rds. This is an already established residential area, and I am definitly opposed to a sewage treatment plant where three thousand residential people live to the south of that site and ten thousand residents live to the north.

The first choice of the M.S.D.'s in 1966 was on the remote site of O'Hare Airport. Chicago rejected this site based on the "Uncertainty of future land planning." I guess the Honorable Mayor Daley did not want to spare the land (approximatly only 1% of the total airport land) for a sewage treatment plant... All tho they seem to have found room for a "luxury" hotel now!

We are a family of five who have lived in this area for six years. I feel, as my neighbors do, concern mainly for the health, even tho the E.P.A. said "There is simply no data available, of which we are aware, that would indicate any public impacts." Al tho it may not be on the "Best Seller List" I would suggest the E.P.A. read a report by Randall and Ledbetter -

Entitled "Bacterial Air Pollution from Activated Sludge Units" (reprinted from American Industrial Hygiene Association Journal, Vol. 27 - Nov - Dec 1966) Which states "There exists a definite possibility of Air borne infection from activated sludge Units" Also they could talk to Dr. Rogoff who points out "Chemical pollutants associated with treatment plants have an effect on increasing human susceptibility to infection by the agents of numerous disease."

The effects of these pollutants are well documented in the National Academy of Sciences' report "Infectious Disease in Manned Space Flight" Maybe the E.P.A. could talk with Dr. Carnow's group at the University of Illinois School of Medicine. So you see there are "trained" people who state the definitate possibility of Air borne bacterial emissions.

According to the two Draft Environmental Impact Statement, (March 1975) U.S.E.P.A. page 5:17 E. "Construction would require use of large vehicles and trucks driven by internal Combustion engines with the resultant addition of these air pollutants to the atmosphere. Under certain weather conditions, residents and animal population in the immediate vicinity could notice an air quality change. This would last at least: 3 months for acess manholes and 32 weeks for drop shafts."

I feel the dust raised by the truck

traffic will also help in polluting the air. Airplane fule and exhaust from the cars and trucks using the near by free-way have already put enough pollution in our air here!!

Also in the same Draft (page ii)
#1.) Air Quality: A, "Occasional odors may be detected from the proposed W.R.P. They are expected to be infrequent, due to the odor-control means and the absent of sludge processing facilities."

We feel even an occasional odor will hamper our out door activities such as a Bar be-cue, children playing, family get togethers, and just enjoying sitting out on a summer evening.

We (my husband and I) still have the memories of the smell of the Salt Creek Plant in our mind and our nostrils, as we lived in its vicinity. They say "A rose by any other name would smell as sweet" All I have to say a sewage treatment plant by any other name will still smell like shit.

Last but not least is the property Value: As you probably know, anyone owning a home with-in 500 feet of a proposed or already established sewage plant will not be able to sell their home to anyone who wants it on a FHA or VA mortgage, which certainly limits the prospective buyers considerably.

Needless to say the property values in the area will decrease. Even the E.P.A. admitted "The home values will decrease durning construction of the

278

4.)

plant," they also said "Any long-term decrease will be negligible." But I wonder just what do they mean by long - term?

We do not complain about the airplanes that fly directly over us, or about the trains that surround our town, as they where here before us!! But we draw the line on this matter.

For the reasons stated above, I suggest the plant should be built on site #2 (South of the North west toll way, West of Elmhurst Rd. North (East) of Higgins. It is a 112 acers (triangular shaped) Already owned by the M.S.D.

The city of Des Plaines has a motto "Dignity, Decency and Determination"

In my opinion the M.S.D. has managed to take away our Dignity. As we have gone to people and asked for their help. Perhaps, even beg a little, as I am doing now, so that the E.P.A. would be understanding and fair

The M.S.D. has managed to take away our Decency by even proposing a sewage treatment plant in a well populated residential area!

But I'll be damned if I'll let the M.S.D. take away our Determination to fight them every step of the way!!!

Lois M. Bauer
320 Dover Dr.
Des Plaines, Ill.

Response: (to 6 previous comments)

As discussed in Chapter 3 and 5, we will require the MSDGC to provide adequate aerosol suppression facilities to restrict the movement of aerosols from the site. We believe the odor control measures proposed by the MSDGC will be sufficient to avoid any significant odor problems.

The airport site must be eliminated because of the restriction, placed on the FAA grant to purchase the land, that it only be used for facilities of direct benefit to the airport.

A distinction must be made between the literature which concludes that there is a possibility of a health hazard associated with aerosol transmission and the fact that an actual health hazard has not been demonstrated. The risk involved however, led us to the conclusion to require aerosol suppression facilities.

With respect to odor considerations, the proposed O'Hare Water Reclamation Plant cannot be compared to other MSDGC facilities. The absence of sludge handling facilities and the proposed odor control measures will be sufficient to avoid any significant odor problems.

The statement concerning the decrease in property values being negligible over the long term means subsequent to the period of construction.

NABISCO, INC.

Food Services Division

2600 Lively Boulevard
Elk Grove Village, Illinois 60007

April 22, 1975

U. S. Environmental Protection Agency
Region 5
230 South Dearborn Street
Chicago, Illinois 60604

SUBJECT: Proposed O'Hare Water Reclamation Plant -
Oakton and Elmhurst Roads

Dear Sir:

The Village of Elk Grove Village has consistently supported the construction of that facility because it is vital to the long range development of the Village of Elk Grove and in particular the industrial community of Elk Grove Village. Without a new plant location nearby, the Village of Elk Grove could conceivably be faced with limitations imposed by the Metropolitan Sanitary District, prohibiting new construction or additions to private property in the Village. Both residential and industrial development could be curtailed. The new facility is desperately needed to relieve the extreme back pressures created in our sanitary system due to the introduction of both sanitary and storm water in municipalities located north of the toll road. Such flows in periods of wet weather in our opinion create back pressures on the interceptor systems servicing Elk Grove Village which, in turn, cause sanitary sewer backups in both residential and industrial properties.

As a business resident of Elk Grove Village, I am concerned that the future progress and development of our Village not be curtailed. My second concern is the health factor, which is faced not only by my business associates, but also by the home-owners who in periods of wet weather are faced with sewer backups.

I encourage you to support, by all means at your disposal, the completion as soon as possible of the new treatment plant.

Sincerely,

Scott

N. B. Scott
Distribution Branch Manager
Elk Grove Sales and
Distribution Center

6-157

Additional letters, substantially identical to the previous letter, in support of the proposed O'Hare Water Reclamation Plant project were received from the following:

James P. Jacobs
Vice President & General Manager
LOEB Corporation
Chicago - 1925 Busse Road
Elk Grove Village, Illinois
Washington - 7301 Roosevelt
Landover, Maryland

W. K. Leutz
President
Gane Brothers & Lane, Inc.
1400 Greenleaf Avenue
Elk Grove Village, Illinois
60007

Jeanne Shaw
General Manager
Easy Travel Service, Inc.
573 Landmeier Road
Elk Grove Village, Illinois
60007

Frederick Roemer
Industrial Relations Manager
Chicago Magnet Wire Corporation
901 Chase Avenue
Elk Grove Village, Illinois 60007

Henry J. Duda
President
Zip Dee, Incorporated
96 Crossen Avenue
Elk Grove Village, Illinois 60007

William Bruce
General Manager
The Voice
1495 Tonne Road
Elk Grove Village, Illinois 60007

Ira A. Eichner
Chairman of the Board, AAR Corp.
2050 Touhy Avenue
Elk Grove Village, Illinois 60007

Robert O. Kramer
President
Keen Screw Products, Inc.
P.O. Box 34
1535 Brummel Avenue
Elk Grove Village, Illinois 60007

Clarence Nowicki
Regional Manager
ZEP Manufacturing Company
1390 Lunt Avenue, P.O. Box 177
Elk Grove Village, Illinois 60007

J. W. Brittingham
Rollex
2001 Lunt Avenue
Elk Grove Village, Illinois 60007

Kenneth A. Dobbs
ABRA Enterprises, Incorporated
360 Kent Street
Elk Grove Village, Illinois
60007

Eli Field
President
Field Container Corporation
1500 Nicholas Boulevard
Elk Grove Village, Illinois 60007

Bruno Diekmann
President
Buss-Condux, Incorporated
2450 Delta Lane
Elk Grove Village, Illinois 60007

R. F. Kowalski
General Manager
J. T. Ryerson & Son, Incorporated
2180 Pratt Boulevard
Elk Grove Village, Illinois 60007

John M. Lengyel
Manager
Warner-Lambert Company
1350 Estes Avenue
Elk Grove Village, Illinois 60007

Alvin A. Brzycki
General Manager
Oxy-Dry Sprayer Corporation
2011 Landmeier Road
Elk Grove Village, Illinois 60007

Gayle B. Bantner
President
Elk Grove Drugs, Incorporated
11 Park 'N Shop Lane
Elk Grove Village, Illinois 60007

Frank Di Canio
President
F-D-C Drafting Aides Corporation
85 Gaylord Street
Elk Grove Village, Illinois 60007

Irv Harvey
President
Galaxy Carpet Mills, Incorporated
850 Arthur Avenue
Elk Grove Village, Illinois 60007

Charles R. Wilcox
Vice President
J. F. Helmold & Bro., Incorporated
901 Morse Avenue
Elk Grove Village, Illinois 60007

James N. Martin
Traffic Supervisor
AMF Voit, Incorporated
2601 Lively Boulevard
Elk Grove Village, Illinois 60007

Brandt W. Berger
Jet Die Casting Corporation
850 Elmhurst Road
Elk Grove Village, Illinois 60007

William E. Huntsha
Manager, Distribution Center
Amerace Brands Division
Amerace Corporation
1201 Mark Street
Elk Grove Village, Illinois 60007

L. Allen Singer
President
Schwinn Sales Midwest, Incorporated
2101 Arthur Avenue
Elk Grove Village, Illinois 60007

Joseph E. Turley
Thomas Equipment Corporation
675 Lively Boulevard
Elk Grove Village, Illinois 60007

William Goldman
Vice President
L. Karp & Sons, Incorporated
1301 Estes Avenue
Elk Grove Village, Illinois 60007

Gerald A. Skillicorn
Director of Operations
Lieberman Enterprises
1000 Touhy Avenue
Elk Grove Village, Illinois 60007

James H. Weeks
Secretary Treasurer
Overhead Door Company of Elk Grove
100 Kelly Street
Elk Grove Village, Illinois 60007

J. J. Pawlak
General Superintendent
Lifetime Foam Products, Incorporated
3001 Cullerton Drive
Franklin Park, Illinois 60131

Edward E. Dormal
Panlmatic Company
79 Bond Street
Elk Grove Village, Illinois 60007

Glenn E. Ronk
President
Sola Electric
1717 Busse Road
Elk Grove Village, Illinois 60007

James Moyles
President
James Moyles & Associates, Inc.
2680 Coyle Avenue
Elk Grove Village, Illinois 60007

K. H. Sankman
Secretary-Treasurer
Globe Amerada Glass Company
2001 Greenleaf Avenue
Elk Grove Village, Illinois 60007

District Manager
Ryder Truck Rental, Incorporated
P.O. Box 13
Bensenville, Illinois 60106

Pat Starr
Vice President
Biltmore Tire Company, Inc.
2500 Devon Avenue
Elk Grove Village, Illinois 60007

I. Kacsh
Director of Finance
Eskay Products Corporation
123 Scott Street
Elk Grove Village, Illinois 60007

Wayne A. Hudec
Manager - Midwest Region
Markem Corporation
2082 Estes Avenue
Elk Grove Village, Illinois 60007

E. J. Burke
Central Warehouse Company
2311 2301 West Touhy Avenue
Elk Grove Village, Illinois 60007

G. A. Strehlow
Treasurer
National Material Corporation
2525 Arthur Avenue
Elk Grove Village, Illinois 60007

Joseph A. Hollander, Jr.
President
Hollander Storage & Moving Company
1801 Pratt Boulevard
Elk Grove Village, Illinois 60007

William J. O'Shea
Vice President
Shamrock Electric Company, Incorporated
1281 E. Brummel Avenue
Elk Grove Village, Illinois 60007

Bernard L. Peterson
Executive Vice President
and General Manager
Wayco Foods Corporation
2000 Pratt Boulevard
Elk Grove Village, Illinois 60007

Robert F. Tomalka
District Manager
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851 Devon Avenue
Elk Grove Village, Illinois 60007

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United States Flour Milling Company
2301 West Touhy Avenue
Elk Grove Village, Illinois 60007

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Vice President
Cosmos Shipping Company, Incorporated
1351 Brummel Avenue
Elk Grove Village, Illinois 60007

E. J. Burke
E. J. Burke and Company
2301 West Touhy Avenue
Elk Grove Village, Illinois 60007

Richard C. Hoskins
President
Hoskins Chevrolet, Incorporated
175 North Arlington Heights Road
P.O. Box 175
Elk Grove Village, Illinois 60007

George E. Noldan
President
Noldan Steel Fabricators, Inc.
105 Weiler Avenue
Elk Grove Township, Illinois 60005

Dan Thomson
Executive Vice President
Halo Lighting
400 Busse Road
Elk Grove Village, Illinois 60007

Louis H. Bennit
Vice President
Wilson Enterprises, Incorporated
2390 United Lane
Elk Grove Village, Illinois 60007

Rob't W. Church
Manager
Ilford, Incorporated
1230 Jarvis Avenue
Elk Grove Village, Illinois 60007

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Raco Industrial Corporation
2323 Touhy Avenue
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J. R. Franzen
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Hanke Company, Incorporated
1001 Fargo AVenue
Elk Grove Village, Illinois 60007

George D. Crawford
Chairman
Northwest Collectors, Incorporated
30 Lively Boulevard
Elk Grove Village, Illinois 60007

Major Lawrence
President
Lawrence Foods, Incorporated
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Tony Weinhammer
Operations Manager
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Thomas J. Chodl
Sales Manager
General Box Division
Southwest Forest Industries
2628 Delta Lane
Elk Grove Village, Illinois 60007

Brother Felix Bettendorf
President/Chief Executive Officer
Alexian Brothers Medical Center
800 West Biesterfield Road
Elk Grove Village, Illinois 60007

Gene H. Rocklin
President
National Threaded Fasteners Corporation
630 Lively Boulevard
Elk Grove Village, Illinois 60007

Dick Neville
President
Continental Studios
100 North Gordon Street
Elk Grove Village, Illinois 60007

Roland Tetmeyer
Regional Distribution Manager
Sperry Remington Electric Shavers
177-179 North Randall Street
Elk Grove Village, Illinois 60007

John M. Hyslop
Business Manager
John Sexton & Company
1099 Pratt Boulevard
Elk Grove Village, Illinois 60007

Joseph A. Nava
President
Timing Gears Corporation
2425 American Lane
Elk Grove Village, Illinois 60007

Henry Cretors
Iroquois Popcorn Company, Inc.
1330 Louis Avenue
Elk Grove Village, Illinois 60007

Larry W. McCormick
President
McCormick's Enterprises, Incorporated
1570 Louis
P.O. Box 97
Elk Grove Village, Illinois 60007

Gerald S. Howard
President
Exhibitgroup Chicago, Incorporated
2800 Lively Boulevard
Elk Grove Village, Illinois 60007

Lewis B. Handler
General Manager
Elk Grove Bowl Billiards
75 Park and Shop
Higgins and Arlington Heights Roads
Elk Grove Village, Illinois 60007

Lewis B. Handler
Managing Partner
Elk Grove Tennis Club
1650 Howard Street
Corner Route 83
Elk Grove Village, Illinois 60007

Advisory Council
On Historic Preservation
1522 K Street N.W. Suite 430
Washington D.C. 20005

April 8, 1975

Mr. Francis Mayo
Regional Administrator
Environmental Protection Agency
Region V
230 S. Dearborn Street
Chicago, Illinois 60604

ENVIRONMENTAL PROTECTION AGENCY
RECEIVED
APR 10 1975
PLANNING BRANCH - Region V
FILE NO. ____

Dear Mr. Mayo:

This is in response to your request of March, 1975 for comments on the environmental statement for the O'Hare Water Reclamation Plant and Solids Pipeline, Cook County, Illinois. Pursuant to its responsibilities under Section 102(2)(C) of the National Environmental Policy Act of 1969, the Advisory Council on Historic Preservation has determined that your draft environmental statement is inadequate regarding our area of expertise as it does not contain sufficient information to enable the Council to comment substantively. Please furnish additional data indicating:

a. Compliance with Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470(f)). The Council must have evidence that the most recent listing of the National Register of Historic Places has been consulted (see Federal Register, February 4, 1975 and monthly supplements each first Tuesday thereafter) and that either of the following conditions is satisfied:

   1. If no National Register property is affected by the project, a section detailing this determination must appear in the environmental statement.

   2. If a National Register property is affected by the project, the environmental statement must contain an account of steps taken in compliance with Section 106 and a comprehensive discussion of the contemplated effects on the National Register property. "Procedures for the Protection of Historic and Cultural Properties" are detailed in the Federal Register of January 25, 1974, pp.3366-3370.

The Council is an independent unit of the Executive Branch of the Federal Government charged by the Act of October 15, 1966 to advise the President and Congress in the field of Historic Preservation.

b. Compliance with Executive Order 11593 of May 13, 1971.

In the case of lands not under the control or jurisdiction of the Federal Government, a statement should be made as to whether or not the proposed undertaking will contribute to the preservation and enhancement of non-federally owned districts, sites, buildings, structures, and objects of historical, archeological, architectural, or cultural significance.

To ensure a comprehensive review of historical, cultural, archeological, and architectural resources, the Advisory Council suggests that the environmental statement contain evidence of contact with the appropriate State Historic Preservation Officer and that a copy of his comments concerning the effects of the undertaking upon these resources be included in the environmental statement. The State Historic Preservation Officer for Illinois is Mr. Anthony Dean, Director, Department of Conservation, 602 State Office Building, 400 South Spring Street, Springfield, Illinois 62706.

Should you have any questions or require any additional assistance, please contact Jordan Tannenbaum (202-254-3380) of the Advisory Council staff.

Sincerely yours,

John D McDermott

John D. McDermott
Director, Office of Review
and Compliance

ENVIRONMENTAL PROTECTION AGENCY

April 24, 1975

Mr. John D. McDermott
Director, Office of Review & Compliance
Advisory Council on Historic Preservation
1522 K Street, N.W., Suite 430
Washington, D. C. 20005

Dear Mr. McDermott:

This will acknowledge receipt of your letter of April 8, 1975 to Mr. Mayo regarding the Draft EIS for the O'Hare Water Reclamation Plant and Solids Pipeline, Cook County, Illinois.

You are advised that the most recent listing of the National Register of Historic Places has been consulted and we have determined that no national register property; (listed or eligible therefor) is affected by the above-mentioned project.

Per Executive Order 11593, there are no known non-federally owned districts, sites, buildings, structures and objects of historical or architectural significance to be affected by the project. With regard to non-federally owned objects of archaeological and cultural significance, you are advised that we are in communication with the Illinois Archaeological Survey to determine archaeological concerns.

We enclose copies of our letter to the State Historic Preservation Office for Illinois dated January 16, 1975 and letters from the Illinois Historic Landmarks Survey dated April 18, 1975 and Illinois Historic Structures Survey dated April 9, 1975 to this agency. We will forward copies of correspondence from the State Historic Preservation Office upon receipt of same.

We hope this letter enables the Council to complete its review of the Draft EIS. If further information is needed, please contact this office.

Sincerely yours,

Harlan D Hirt

Harlan D. Hirt
Chief, Planning Branch

CONCURRENCES

ENVIRONMENTAL PROTECTION AGENCY

January 16, 1975

Mr. Anthony T. Dean, Director
Department of Conservation
605 State Office Building
400 South Spring Street
Springfield, Illinois 62706

Dear Mr. Dean:

We are initiating the preparation of a draft Environmental Impact Statement on a proposed sewage treatment project in the Upper Des Plaines River Basin, Illinois. Enclosed are maps of the area and descriptions of the conveyance system, the water reclamation plant, and the solids pipeline.

As a part of this process, we need to determine if there are any sites affected by this project which have significant historical, archeological, architectural, or cultural value, particularly those included in or eligible for inclusion in the National Register of Historic Places. To the best of our present knowledge, no such sites will be adversely affected by these proposals.

Please advise us of the status of this project's historical, archeological, architectural or cultural impact. Feel free to contact Cathy Grissom of my staff at 353-7730 if you have any questions regarding the project.

Sincerely yours,

Harlan D. Hirt
Chief, Planning Branch

Mrs. Dolores Haugh, Sec. Mt. Prospect Hist. Soc.
cc: Virgil Horath, Hist.Soc.Arling.Hghts
Mary Virginia Wright, Des Plaines
Historical Society

Facilities Description

The service area for the O'Hare Water Reclamation Plant (Map 1) is 58.2 sq. mi. and includes Des Plaines, Mt. Prospect, Arlington Heights, Elk Grove, Rolling Meadows, Prospect Heights, Wheeling, and Buffalo Grove, Illinois.

The proposed treatment plant site is in Des Plaines, bounded on the north by Oakton Street, on the west by Elmhurst Road, on the south by the Northwest Tollway, and on the east by Marshall Road. Wille Road transverses the site and will remain in its present location. (Map 2)

A new wastewater conveyance system will be constructed in the Mt. Prospect and Des Plaines area. (Map 3) The tunnels will be excavated at 40-160 feet below the surface, with the major surface construction impacts occurring at the drop shaft points, as indicated on Map 3. Manholes will also connect the sewers to the surface. Following are specific route descriptions:

Upper Des Plaines 20, Contract 73-317-2S

This consists of constructing 22,200 linear feet of 20' I.D. sewer in tunnel approximately 150' below the ground surface in bedrock. Also included in the construction are five (5) hydraulic drop shaft structures, a main construction shaft and access manholes to be located at intervals of approximately 2000' along the tunnel. This contract will be located along Elmhurst Road between the Northwest Tollway and Weller Creek and along Weller Creek Between Elmhurst Road and Central Road.

Upper Des Plaines 20A, Contract 73-318-2S

This consists of constructing connecting structures and sewer laterals to intercept combined sewers presently discharging water to Weller Creek and Feehanville Ditch and also dry weather flow. This contract will divert the combined sewage to the rock level tunnels until they are filled thereby reducing the frequency of spillage of combined sewage to waterways from an average of 80 times per year to fewer than 6. This contract will be constructed at the locations of combined sewer outfalls along Weller Creek between Central and Rand Roads and at the Feehanville Ditch near Rand Road.

Upper Des Plaines 20B, Contract 73-319-2S

This consists of construction of 6,000 linear feet of 5' I.D. sewer in earth tunnel approximately 50' below the ground surface and also includes construction of manholes at approximately 600' intervals along its length as well as connecting structures. The contract will intercept the District's Upper Des Plaines 14A Interceptor at Rand and Wolf Roads, which serves Wheeling Township north of Rand Road and a small area in the western portion of Northfield Township, thereby diverting sewage presently being treated at the North Side Sewage

Treatment Works in Skokie to the proposed O'Hare Water Reclamation Plant. This contract will be constructed along Mt. Prospect Road from Weller Creek to Princeton Street (extended) and east along Princeton Street and Princeton Street (extended) to Wolf Road thence north along Wolf Road to Rand Road.

Upper Des Plaines 21, Contract 73-320-2S

This contract consists of construction of 11,200 linear feet of 16' I.D. and 2,000 linear feet of 9' I.D. sewer in tunnel approximately 120' to 150' below the ground surface in bedrock. Also included is construction of three (3) hydraulic drop shaft structures and access manholes to be located at intervals of approximately 2000' along the length of the tunnels. This contract will serve as a sanitary sewage interceptor and will also intercept and convey combined sewage overflows presently discharging to Weller Creek and Feehanville Ditch. The 16' I.D. tunnel will extend from Elmhurst Road and Lonnquist Boulevard east to William Street then north in William Street to a point northerly of RAad Road and Isabella Street. The 9' I.D. branch will extend along Weller Creek from William Street to Mt. Prospect Road.

Upper Des Plaines 20C, Contract 69-307-2S

This consists of constructing 11,000 linear feet of 5'0" I.D. sewer in earth tunnel approximately 25' to 45' below the ground surface, also construction of manholes at approximately 600' intervals along the length of the tunnel as well as connecting and junction structures. This sewer will intercept the District's Interceptor UD 11D at Wildwood Road and Oakton Street, and at Busse Road and Oakton Street thus providing relief and diverting the flow to Upper Des Plaines 20 at Elmhurst Road and Oakton Street. The contract will be constructed along Oakton Street between Wildwood and Elmhurst Roads.

Sludge generated at the O'Hare Water Reclamation Plant will be piped west to the Salt Creek Plant for processing. Open trench construction will be employed for this pipeline. Alternate 1 of the following discussion is the proposed pipeline route.

STATE OF ILLINOIS

DEPARTMENT OF CONSERVATION
605 STATE OFFICE BUILDING
400 SOUTH SPRING ST.
SPRINGFIELD 62706

CHICAGO OFFICE—1227 S. MICHIGAN AVE. 60605

ILLINOIS HISTORIC STRUCTURES SURVEY GLESSNER HOUSE
1800 South Prairie Avenue Chicago, Illinois 60616

9 April 1975

Mr. Harlan D. Hirt
Chief, Planning Branch
U.S. Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois 60604

Subject: Environmental Impact Statement: Proposed Sewage Treatment Project, Upper Des Plaines River Basin, Illinois

Dear Sir:

So far as we can tell from our incomplete survey of this region of Cook County, the proposed improvement will not impact any structures of historic visual significance.

Yours sincerely,

Paul E. Sprague

Paul E. Sprague, director
Illinois Historic Structures Survey

PES/pek

ENVIRONMENTAL PROTECTION AGENCY
RECEIVED
APR 11 1975
PLANNING BRANCH - Region V
FILE NO.________________

STATE OF ILLINOIS

DEPARTMENT OF CONSERVATION
605 STATE OFFICE BUILDING
400 SOUTH SPRING ST.
SPRINGFIELD 62706

CHICAGO OFFICE—1227 S. MICHIGAN AVE. 60605

April 18, 1975

Mr. Harlan D. Hirt
Chief
Planning Branch
United States Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604

Dear Mr. Hirt:

Enclosed is a memorandum from my northern area field surveyor concerning the historic impact of the proposed sewage treatment project in the Upper Des Plaines River Basin. As you can see by the memo, your project appears to have no adverse impact on historic sites. Mr. Hild does note the existance of marsh prairie and I assume that you are taking that into account.

If you need any further information on this, please feel free to contact me.

Sincerely,

William G. Farrar
WILLIAM G. FARRAR
Director
Illinois Historic Landmarks Survey
P. O. Box 986
Carbondale, Illinois 62901

Enclosure
WGF/kpg

ENVIRONMENTAL PROTECTION AGENCY
RECEIVED
APR 21 1975
PLANNING BRANCH - Region V
FILE NO.

6-170

Recycled Paper

STATE OF ILLINOIS

DEPARTMENT OF CONSERVATION
605 STATE OFFICE BUILDING
400 SOUTH SPRING ST.
SPRINGFIELD 62706

CHICAGO OFFICE—1227 S. MICHIGAN AVE. 60605

Illinois Historic Landmarks Survey

14 April 1975

MEMORANDUM

To: Bill Farrar
From: T. Hild
Subject: Environmental Impact Statement: Proposed Sewage Treatment Project, Upper Des Plaines River Basin

Since our research in the area under consideration has hardly begun it was deemed advisable to make an immediate field-survey. This was done on Saturday, April 12.

To accomplish this I traveled all the routes (alternates and sub-alternates) indicated on the enclosed maps. I did not enter the Cook County Forest Preserve lands except for those portions through which public highways ran.

The major part of the land in question is covered by industrial parks, apartment complexes, and residential subdivisions all of relatively recent construction. The remainder of the land was open space which provided me unobstructed views of wide vistas.

After covering the entire route I found no places that would appear to qualify for the National Register. In fact, I found nothing that would even qualify for inclusion in our inventory that would be in the way of the proposed sewage project.

I might add, however, that much of the open land in the forest preserves might be virgin prairie since it appears quite marshy in places and was not settled until relatively late (after the Civil War).

Recycled Paper

MSDGC

ILLINOIS ARCHAEOLOGICAL SURVEY
109 DAVENPORT HALL UNIVERSITY OF ILLINOIS URBANA, ILLINOIS 61801

Cooperating Institutions:
University of Illinois
Southern Illinois University
Illinois State Museum

March 18, 1975

ENVIRONMENTAL PROTECTION AGENCY
RECEIVED
MAR 19 1975
PLANNING BRANCH - Region V
FILE NO.

Mr. Harlan D. Hirt
Chief, Planning Branch
United States Environmental Protection Agency
Region 5
230 South Dearborn Street
Chicago, Illinois 60604

Dear Mr. Hirt:

Dr. Peter Roberts of the Illinois Department of Conservation has sent me a copy of your letter of January 16 and maps regarding the proposed sewage treatment project in the Upper Des Plaines River Basin, Illinois.

reference to Solids pipeline

A check of our master archaeological site file indicates that at least one known site (a mound) is located near Alternate 2 and one is located south of Alternate 1 (village) on the map showing the alignment alternates. We recommend that an archaeological reconnaissance survey be undertaken of the proposed treatment plant site, the pipeline, and throughout the wastewater conveyance system when an alternate is selected. The portions of the system traversing the Cook County Forest Preserve or any tracts not previously disturbed by urban development will be particularly important to check.

Please get in touch with our office if we can be of any further assistance with this project.

Cordially yours,

Charles J. Bareis

Charles J. Bareis
Secretary-Treasurer

CJB:cb
cc: Peter Roberts

April 14, 1975

Mr. Charles J. Bareis
Secretary - Treasurer
Illinois Archaeological Survey
109 Davenport Hall
University of Illinois
Urbana, Illinois 61801

Dear Mr. Bareis

This will follow up our letter to the Illinois Department of Conservation dated January 16, 1975, and your letters to this Agency dated February 10 and March 18, 1975.

We concur that archaeological input is a necessary part of environmental assessments relating to projects considered by this office. We hope that a meeting with your office, Illinois Environmental Protection Agency and the Department of Conservation and our office can be held to discuss these issues.

Presently we ask your attention to the proposed Metropolitan Sanitary District of Greater Chicago projects in the Upper Des Plaines River Basin, Cook County. Our letter of January 16, 1975 to Director Dean included a facilities description of the proposal.

A reconnaissance survey at selected locations may be necessary to identify archaeological concerns. Specifically,:

A. Solids Pipeline (6.22 miles in length)
Alternate 1 on the map previously sent has been the alignment chosen. The pipeline is planned for existing rights-of-way in most locations. A discussion with the Cook County Forest Preserve District indicated that the portion proposed through District property is within an open field and within an existing eighty-foot right-of-way granted to a Petroleum Products Company.

B. Conveyance System

The tunnels will be excavated at 40-140 feet below the surface. Major surface construction impacts will occur at eight drop shaft points and it appears that the drop shaft locations and tunnel construction other than in bedrock would have archaeological concern.

C. Water Reclamation Plant

Two sites presently owned by MSDGC may require a survey. Site 1, located at the southeast corner of Oakton and Elmhurst Roads (Illinois Route 83) consists of 104 acres.

Site 2, located south of the Northwest Tollway and west of Elmhurst Road consists of 112 acres.

We ask that you refer to your archaeological files and indicate to this office the following:

1. Additional information regarding your March 18 recommendation for an archaeological reconnaissance survey as to specific known information by site location. (Reference 3 areas above)
2. Suggestions as to the agency or person qualified, in your opinion, to carry out an archaeological survey.

Your attention to this matter is appreciated. We hope to meet with you soon to discuss the broad range of archaeological responsibilities in Illinois.

Sincerely yours,

Harlan D. Hirt
Chief, Planning Branch

cc: Dr. Peter Roberts, Ill. Dept. of Conservation
Dr. Briceland, IEPA
Dan Goodwin, IEPA
BART LYNAM, MSDGC
, MSDGC

ILLINOIS ARCHAEOLOGICAL SURVEY
109 DAVENPORT HALL UNIVERSITY OF ILLINOIS URBANA, ILLINOIS 61801

Cooperating Institutions:
University of Illinois
Southern Illinois University
Illinois State Museum

May 2, 1975

Mr. Harlan D. Hirt
Chief, Planning Branch
United States Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, IL 60604

Dear Mr. Hirt:

Thank you for your letter of April 14 and enclosure of maps pertaining to the proposed Metropolitan Sanitary District of Greater Chicago projects in the Upper Des Plaines River Basin, Cook County.

There is no new additional information or changes in the data that we have previously provided you for these projects. A check of our master site file indicates that no known archaeological sites are recorded within the right-of-way of Alternate 1 for the solids pipeline or in the areas of sites 1 and 2 for the Water Reclamation Plant. A field check would have to be made to ascertain whether the village (Ck-97) we previously mentioned, is still located south of Alternate 1. We do not know the specific locations of the eight drop shaft points to check for archaeological sites in our records.

We, of course, recommend a detailed reconnaissance archaeological survey of all project areas to be developed. Please contact Dr. Robert L. Hall, Chairman, Department of Anthropology, University of Illinois-Chicago Circle, Chicago, Illinois. Dr. Hall is a member of the Illinois Archaeological Survey and will be able to prepare a time and cost estimate for the proposed survey work.

I agree with you that we should have a meeting in the future to discuss the impact of the many applications for interceptor-collection systems and sewage treatment plants by various cities and towns throughout the Illinois. East separate project could very well effect the archaeological resource base in each particular area, and every effort should be taken to insure preservation of our archaeological resources.

We appreciate your concern and interest. Please stay in touch with our office.

Cordially yours,

Charles J. Bareis

Charles J. Bareis
Secretary-Treasurer

CJB:sh
cc: Robert L. Hall

D. Resolutions and Petitions

Chronology of Interest
by Elk Grove Village
in the
O'Hare Water Reclamation Plant

March 31, 1975

May 7, 1971

Letter to NIPC re: A-95 #71-067 O'Hare Treatment Plant.
Federal Grant of $13,954,200 toward $46,514,000 (now $82,500,000 toward $110,000,000).
48 MGD 450,000 POP. 37,250 AC.
(72 & 96 MGD) (3000,000 POP.) (37,250 AC.)
Des Plaines, Mt. Prospect, Elk Grove, Rolling Meadows, Wheeling and Buffalo Grove.

1972

In 1972, we spent an enormous amount of time working with the Metropolitan Sanitary District in an attempt to reduce the amount of storm water infiltration into our sanitary sewers. The reason we had to do that, I will tell you, is because the City of Des Plaines, Village of Mount Prospect and the Village of Arlington Heights operate combined sewers which allows storm water into the MSD system and thereby usurping the capacity of the MSD lines otherwise available to EGV.

January 31, 1973

Letter from Village Manager to MSD President requesting information about the Proposed Retention Basins south of the NW Tollroad removing 138 acres from our future tax base.

Expressing reservations about failure of MSD to consider Elk Grove Village Comprehensive Plan.

February 13, 1973

Letter from Village President to MSD President regarding the position of Elk Grove Village.

-- Remained silent on the O'Hare Plant Issue in respect of our neighbor, Des Plaines, to permit the MSD and City of Des Plaines to explore and resolve their differences.

-- Further delays and increased costs to taxpayers to occur if the plant is to be relocated.

-- Pollution and flooding would continue to worsen.

-- Upper Salt Creek Plant (now called John E. Egan WRP) is being built adjacent to Elk Grove Village west of Interstate 90 within 350 feet of a single family subdivision.

-- Delays in constructing O'Hare Plant represents a failure to act responsibly in protecting the public health.

February 27, 1973

Resolution #13-73
Proceed without delay; incorporate Village President's February 13, 1973 'Position Statement' sent to MSD; send copies of Resolution to City of Des Plaines and others.

June 18, 1973	Letter from Village Manager to Chairman, MSD Committee on Finance, recommending early construction of -- O'Hare Plant -- Oakton Interceptor Lines to O'Hare Plant
June 28, 1973	Letter from MSD President providing information re: farming of waste treatment by-products and retention basins south of Northwest Tollway. (Both Adjacent to EGV) (Higgins basin of 135 acres to store overflow from Des Plaines, Mt. Prospect and Arlington Heights combined sanitary and storm sewers. Liquids in Basin would have to be 24 feet deep to store 3,300 acre-feet of overflow.)
July 2, 1973	Letter from Village Manager to NIPC concerning A-95 #73-124 (O'Hare Solids Pipeline to Salt Creek Plant) and A-95 #73-125 (Northwest Liquid Fertilizer Pipeline from Salt Creek Plant to West/Southwest MSD Plant). -- Support both projects.
October 3, 1973	Letter to NIPC re: A-95 #73-265 (Demonstration Grant for putting O'Hare Plant entirely underground). -- Support and favor, but -- Proceed with a Plant to avoid sewage back-ups and overflows. -- Particular caution requested in design and operation of open-air retention and overflow basin in interest of public health and public safety. -- However, it is unfortunate, unfair to delay the O'Hare Plant any longer.
March 29, 1974	MSD letter to Elk Grove Village requesting permission and an ordinance for the Oakton Street Interceptor line to provide relief to the MSD lines in Oakton and Buss Road.
April 9, 1974	Minutes of Village Board meeting reviewing need for the O'Hare Plant and supporting Ordinance granting an easement to MSD for an Interceptor line in Oakton Street, Elk Grove Village.
April 9, 1974	Ordinance #920 granting easement, construction and maintenance rights to MSD for Oakton Street Interceptor.

April 23, 1974

Resolution #37-74 urging the Illinois Municipal League to withdraw support from Des Plaines' efforts to delay construction of the O'Hare Plant.

-- Support Home Rule but believe need for O'Hare Plant to be of overriding importance.

May 16, 1974

Letter Village President to Alderman Ward, Des Plaines.

-- Appreciate your interest and your constituents' concerns.

-- We believe the general public need for the O'Hare Plant transcends Ward's objections.

-- See no need to meet, but ask reconsideration by Alderman Ward.

December 2, 1974

Letter to NIPC re: A-95 74-603.
(Federal Grant to MSD for Step 1 Facilities Planning for $9,000 of $12,000 study.)

-- 20 year sewage collection and treatment needs in O'Hare basin area.

-- Support application.

December 19, 1974

Village Trustee Edward Kenna and Village Manager testified at the MSD Public Hearing in Mt. Prospect on the Environmental Assessment Statement to the effect:

-- O'Hare Plant is essential,

-- Parties in dispute should resolve differences,

-- Contemporary pollution control standards should be observed,

-- Public health requires that delays not be tolerated, and

-- That the O'Hare Plant be built now.

January 2, 1975

Letter to NIPC re: A-95 74-647.
O'Hare Water Reclamation Plant Environmental Assessment Statement.

-- Supported the construction of the Plant and use of environmental protection measures in its design and eventual operation.

-- Supported the 'overflow' basin adjacent to Elk Grove Village and recommended use of environmental protection techniques to minimize adverse air quality conditions.

January 2, 1975

Letter to NIPC re: A-95 74-648.
Solids Pipeline between the O'Hare Plant & John Egan Plant (via EGV).

-- Supported the 6.2 mile project as essential to a total system of modern waste disposal.

-- Expressed belief that both MSD & its contractors will exercise due consideration when working on the 5.0 miles of pipeline within Elk Grove.

January 31, 1975

Letter to NIPC re: A-95 74-650;
-651
-652
-653
concerning Deep Tunnel facilities.

-- Supported their construction,

-- And other improvements essential to a total system of Waste Water Treatment.

March 31, 1975

Village of Elk Grove testified at the U.S. EPA Public Hearing in Des Plaines re: 'Environmental Impact Statements' about:

-- Deep Tunnel System.

-- O'Hare Water Reclamation Plant.

While a smaller plant was proposed in 1971 at a cost of some $46 million, that cost is now approaching $95,000,000. You know where costs are going because you buy bread and eggs and milk at the grocery store. This plant is no different to you and me, it is vital to the public health of this total area, and, if it is not built soon, its cost is simply going to go up, and you and I and others in this District are going to pay for it.

We believe that the Metropolitan Sanitary District is responsive to reasonable suggestions for the protection of the environment. We still encourage the District to listen carefully to the City of Des Plaines and to observe the environmental standards being suggested. We would hope that if the proposed plant is not successfully operated, that such modifications as made the Clavey Park and Sacramento plants will also be carried out in the O'Hare Plant.

Finally -

Our position remains unchanged. But our interest in having a modern waste water treatment plant is increasing. We believe it is better to have sanitary sewage treated in a modern urban treatment plant which has been designed and is operated at the highest most reasonable standards of environmental protection possible, rather than to continue to overload existing facilities with storm water to the point where raw, untreated sanitary waste spills out on the streets, in yards, and, yes, into the basements of private homes.

We continue to respect the concern of our sister municipality, but it seems to us that raw sewage belongs in a modern treatment plant and not in the basements and yards of private citizens.

Please, we urge you to proceed without further delay.

Thank you.

X

RESOLUTION 13-73

O'HARE TREATMENT PLANT

WHEREAS: The Metropolitan Sanitary District of Greater Chicago is prepared to construct the O'Hare Water Reclamation Plant at Elmhurst and Oakton Roads, and

WHEREAS: The objections and concerns of an adjoining municipality have been given considerable attention by the Metropolitan Sanitary District both in Court and out of Court, and

WHEREAS: Said review, debate and legal proceedings have not only served their purpose but have caused an inordinate delay in the construction of a much needed public health service facility, and

WHEREAS: Further delay will serve little purpose but it will create extreme hardship and increased public health hazards.

NOW, THEREFORE, BE IT RESOLVED by the President and Board of Trustees of the Village of Elk Grove Village that:

One: The Metropolitan Sanitary District proceed without further delay to construct the O'Hare Water Reclamation Plant as planned for the intersection of Oakton & Elmhurst Roads.

Two: The letter of February 13, 1973 from Charles J. Zettek, Village President, to John E. Egan, President, Metropolitan Sanitary District, be incorporated into and made an official part of this Resolution.

Three: Copies of this Resolution and the February 13 communication be sent to the City of Des Plaines and others.

BE IT FURTHER RESOLVED that this Resolution shall take full force and effect from and after its passage and approval according to law.

PASSED THIS 27th day of February, 1973. AYES 6 NAYS 0

APPROVED THIS 27th day of February, 1973.

Charles J. Zettek

Village President

ATTEST:

Village Clerk

ove
Village

CHARLES J. ZETTEK

Village Clerk
RICHARD A. McGRENERA

Village Manager
CHARLES A. WILLIS

RONALD L. CHERNICK
ROBERT H. DEARNING
EDWARD W. KENNA, JR.
GEORGE T. SPIES
THEODORE J. STADDLER
NANCY L. VANDERWEEL

February 13, 1973

Mr. John E. Egan, President
Metropolitan Sanitary District
of Greater Chicago
100 East Erie Street
Chicago, Illinois 60611

Dear Mr. Egan:

We have remained relatively silent with regard to the O'Hare Sewage Treatment Plan and its ultimate construction at the southeast corner of Oakton Street and Elmhurst Road in Des Plaines. We have done so in respect for the Sanitary District and the City of Des Plaines, as well as to maintain our good neighbor standing and policy with both parties.

However, we now feel compelled to speak out on the matter. We were painfully surprised to hear of Mayor Behrel's proposal that the sanitary site be built on the south side of Oakton Street, west of Busse Road. It is our understanding this proposal, if acted upon, would result in an added delay of two or more years and would cost some additional 8 to 11 million dollars. Elk Grove Village cannot afford this consideration being given any serious thought. The delay would cause to our residents an increase in taxes and bring about unnecessary delay in the resolvement of sewage pollution and flooding in the eastern part of Elk Grove. We cannot and will not allow this to occur.

We wish to remind the Sanitary District of the Upper Salt Creek Plant which is located adjacent to the western boundary of Elk Grove and our complete cooperation and support of same. We have long recognized the need to accept public responsibility, including our share of facilities which may not always receive the endorsement and applause of our residents. We appreciate our need to ensure and provide for the public safety, health and welfare of our residents. In the instance of the Upper Salt Creek Plant, our support and cooperation was given with pride and courage to maintain a posture that was in the best interest of the general public.

Therefore, we must on behalf of the residents of Elk Grove Village encourage you to proceed without further delay in the construction of the O'Hare Treatment Plant at the southeast intersection of Oakton and Elmhurst Roads. To explore other sites would require further unwarranted delay in time, increase the burden to the taxpayer and fail to meet forthrightly the responsibility for the maintenance of the public health. We support you and are ready and anxious to assist and/or cooperate with you in any way which will contribute to an early construction of the O'Hare Treatment Plant as presently proposed.

Sincerely yours,

Charles J. Zettek

Charles J. Zettek
President

CJZ:ms

cc: Village Trustees
Village Clerk
Village Attorney
Village Manager
Village Engineer
Herbert Behrel, Mayor of Des Plaines
Trustees - Metropolitan Sanitary District of Greater Chicago
Nicholas J. Melas, Vice President
Joanne Alter (Mrs.)
Joan G. Anderson (Mrs.)
Valentine Janicki
William Jaskula
James C. Kirie
Chester P. Majewski
John W. Rogers
Acting General Superintendent Bart Lynam -
Metropolitan Sanitary District of Greater Chicago
William E. Shannon, Elk Grove Village Plan Commission Chairman

MINUTES OF THE REGULAR MEETING OF THE PRESIDENT AND BOARD OF TRUSTEES OF THE VILLAGE OF ELK GROVE VILLAGE HELD ON APRIL 9, 1974

President Charles J. Zettek called the meeting to order at 8:08 p.m. in the Municipal Building, 901 Wellington Avenue, Elk Grove Village and directed the Village Clerk, Eleanor G. Turner to call the roll. Upon the roll being called the following answered PRESENT: Trustees Ronald L. Chernick, George T. Spees, Theodore J. Staddler, Michael Tosto, Nancy L. Vanderweel; ABSENT: Trustee Edward W. Kenna. Village Attorney, Edward C. Hofert and Village Manager, Charles A. Willis were present at this meeting.

The Chief of Police, Harry P. Jenkins, delivered the invocation.

It was moved by Trustee Spees and seconded by Trustee Vanderweel that the minutes of the regular meeting of April 2, 1974 be approved as submitted and that the Board dispense with the reading thereof. The motion was voted upon by acclamation; whereupon the President declared the motion carried.

President Zettek issued a Proclamation, proclaiming the week beginning May 1, 1974 as Youth Week by the Benevolent and Protective Order of Elks, Lodge No. 2423.

It was moved by Trustee Chernick and seconded by Trustee Tosto that the Board authorize the disbursement of $17,748.55 from the Water and Sewer Department Operating Account, $39,693.08 from the General Corporate Account, $294.95 from the Civil Defense Fund Account, and $8,400.00 from the Municipal Buildings Construction Fund Account in payment of invoices as shown on the April 9, 1974 Accounts Payable Warrant. The President directed the Clerk to call the roll on the motion and upon the roll being called the following answered AYE: Trustees Chernick, Spees, Staddler, Tosto, Vanderweel; NAYS: None; ABSENT: Trustee Kenna; whereupon the President declared the motion carried.

It was moved by Trustee Chernick and seconded by Trustee Staddler that the Board waive the first reading rule with respect to an ordinance making transfers among appropriations. The motion was voted upon by acclamation; whereupon the President declared the motion carried.

It was moved by Trustee Chernick and seconded by Trustee Staddler that the Board adopt Ordinance No. 919 entitled "AN ORDINANCE AUTHORIZING TRANSFERS AMONG APPROPRIATIONS". The President directed the Clerk to call the roll on the motion and upon the roll being called the following answered AYE: Trustees Spees, Staddler, Tosto, Vanderweel, Chernick; NAYS: None; ABSENT: Trustee Kenna; whereupon the President declared the motion carried.

It was moved by Trustee Tosto and seconded by Trustee Staddler that the Board waive the first reading rule with respect to an ordinance relating to installation of a 60 inch sanitary sewer on Oakton Street. The motion was voted upon by acclamation; whereupon the President declared the motion carried.

It was moved by Trustee Tosto and seconded by Trustee Staddler that the Board adopt Ordinance No. 920 entitled "AN ORDINANCE AUTHORIZING THE METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO TO CONSTRUCT AND MAINTAIN A 60 INCH SANITARY SEWER INTERCEPTOR ALONG OAKTON STREET FROM WILDWOOD ROAD EAST TO APPROXIMATELY ELMHURST ROAD". The President directed the Clerk to call the roll on the motion and upon the roll being called the following answered AYE: Trustees Staddler, Tosto, Vanderweel, Chernick, Spees; NAYS: None; ABSENT: Trustee Kenna; whereupon the President declared the motion carried.

The Village Manager stated that the installation of the interceptor line on Oakton Street is one of the most important improvements the Metropolitan Sanitary District can make in the immediate area, the next most important improvement is the proposed O'Hare Water Reclamation plant which has been under consideration for many years. One of the community needs is relief from the enormous back pressure on the existing Metropolitan Sanitary District interceptor system adjacent to the Village. The back pressure causes, on occasion, sanitary backups in the Village, a problem the Village has had for over three and a half years. The proposed interceptor line will relieve and eliminate that pressure entirely, and will result in the eventual elimination of the Ridge Avenue Lift Station and other lift stations in the Village.

RESOLUTION NO. 37-74

A RESOLUTION URGING CERTAIN ACTION BY THE ILLINOIS MUNICIPAL LEAGUE REGARDING THE METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO

WHEREAS, the Village of Elk Grove Village is a member of the Illinois Municipal League; and

WHEREAS, the Village of Elk Grove Village is within the jurisdiction of the Metropolitan Sanitary District of Greater Chicago; and

WHEREAS, on February 27, 1973, the Village adopted Resolution No. 17-73 urging the Metropolitan Sanitary District to proceed without further delay the construction of the O'Hare Sanitary Sewage Treatment Plant; and

WHEREAS, the Village of Elk Grove Village was informed through the news media that the Illinois Municipal League has commenced active support of the City of DesPlaines, Illinois in that city's efforts to prevent construction of a sewage treatment plant at the southeast corner of Oakton Street and Elmhurst Road; and

WHEREAS, the expressed purpose of Illinois Municipal League support is based on the assumed right of the City of DesPlaines to exercise Municipal Home Rule powers as represented in the Constitution of the State of Illinois and that such home rule powers supercede Metropolitan Sanitary District jurisdiction; and

WHEREAS, the Village of Elk Grove Village considers immediate construction of said sewage treatment plant to be vital in resolving sewage pollution and flooding in Elk Grove Village and neighboring communities.

NOW, THEREFORE, BE IT RESOLVED by the President and Board of Trustees of the Village of Elk Grove Village, Counties of Cook and DuPage, State of Illinois, that the Illinois Municipal League cease its support of the City of DesPlaines in that city's dispute with the Metropolitan Sanitary District of Greater Chicago.

BE IT FURTHER RESOLVED by the President and Board of Trustees of the Village of Elk Grove Village, Counties of Cook and DuPage, State of Illinois that the Village of Elk Grove Village strongly supports Home Rule for Illinois Municipalities, but considers the importance of the construction of the aforementioned sewage treatment plant to be of overriding importance.

BE IT STILL FURTHER RESOLVED, that a certified copy of this resolution be distributed to the Executive Committee of the Illinois Municipal League.

PASSED this 23rd day of April, 1974.

APPROVED this 23rd day of April, 1974.

Charles J. Zettek
President

ATTEST:

Eleanor G. Turner
Village Clerk

RESOLUTION NO. 14-72

A RESOLUTION URGING THE METROPOLITAN SANITARY DISTRICT TO PROCEED WITH A DEEP TUNNEL PLAN AND THE O'HARE TREATMENT PLANT

WHEREAS, urbanization has taken place in the Greater Chicago Metropolitan Area, and as a result thereof large areas which were formerly marsh land and lowland have been filled in and storm sewer systems have been installed changing the character of the land and imposing excessive flows on the rivers, streams, and creeks; and

WHEREAS, urbanization is continuing throughout the drainage basin and the adjacent states, counties, local communities and developers have previously failed to provide adequate collection and storage for storm water and sanitary sewerage collection in new developments; and

WHEREAS, the people in and adjacent to the Village of Mount Prospect and neighboring communities are continuing to experience severe property damage, hazards to health, and inconvenience; and

WHEREAS, the Village of Mount Prospect is presently served with an inadequate combined storm and sanitary sewer system owned and operated by the Metropolitan Sanitary District; and

WHEREAS, the Metropolitan Sanitary District is currently studying the alternate designs for the O'Hare Sewage Treatment Plant Interceptor System; and

WHEREAS, the deep tunnel system is an alternate design that will have great benefits to the Metropolitan Area and the Village of Mount Prospect in the prevention of severe flooding by storm waters and sanitary sewerage; and

WHEREAS, a solution to this property damage, hazards to health and inconvenience rests in the Metropolitan Sanitary District's proposed O'Hare Treatment Plant and implementation at the earliest date possible;

NOW, THEREFORE, BE IT RESOLVED BY THE PRESIDENT AND BOARD OF TRUSTEES OF THE VILLAGE OF MOUNT PROSPECT, COOK COUNTY, ILLINOIS;

SECTION ONE: That the Metropolitan Sanitary District select the Deep Tunnel System design and construct the O'Hare Treatment Plant and Interceptor System at the earliest possible date.

SECTION TWO: That this Resolution shall be in full force and effect from and after its passage and approval in the manner provided by law.

AYES: 5

NAYS: 0

PASSED AND APPROVED this 5th day of July, 1972.

ROBERT D. TEICHERT
Village President

ATTEST:

DONALD W. GOODMAN
Village Clerk

STATE OF ILLINOIS }
COUNTY OF COOK } SS

I, Marie T. Hard, do hereby certify that I am the duly qualified and acting Deputy Clerk of the Village of Mount Prospect in the County and State aforesaid, and as such Deputy Clerk I am the keeper of the records and files of the Board of Trustees of said Village.

I do further certify that attached hereto is a full, true and correct copy of RESOLUTION 14-72 duly adopted by the Board of Trustees of the Village of Mount Prospect, Cook County, Illinois, at its legally convened meeting held on the 5th day of July, 1972, and that at the time of adoption of said RESOLUTION 14-72 the Board of Trustees voted as follows:

AYES: 6
NAYS: 0
ABSENT: 0

all as appears in the official records of said Village in my care and custody.

Dated at Mount Prospect, Illinois, this 27th day of March, 1972.

Marie T. Hard
Deputy Clerk, Village of Mount Prospect
Cook County, Illinois

RESOLUTION NO. 7-75

A RESOLUTION GRANTING A CERTAIN LICENSE TO THE METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO

WHEREAS, Section 6(a) of Article VII of the 1970 Constitution of the State of Illinois provides that "any municipality which has a population of more than 25,000 (is) a Home Rule Unit" and the Village of Mount Prospect, Cook County, Illinois, with a population in excess of 25,000 is, therefore, a Home Rule Unit and may, under the power granted by said Section 6(a) of Article VII exercise any power and perform any function pertaining to its government and affairs; and

WHEREAS, pursuant to such authority, the Mayor and Board of Trustees of the Village of Mount Prospect have heretofore passed and approved an ordinance amending the Mount Prospect Municipal Code of 1957, by adding thereto Sections 9.202 and 9.203 requiring certain approvals by the Mayor and Board of Trustees of the Village of Mount Prospect prior to certain work within certain areas of the corporate limits of the Village of Mount Prospect; and

WHEREAS, the Metropolitan Sanitary District of Greater Chicago has requested certain licenses, easements, rights, and authorities be granted it in order to construct and maintain the "Tunnel and Reservoir Plan" as well as certain conveyance facilities and appurtenances thereto.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND BOARD OF TRUSTEES OF THE VILLAGE OF MOUNT PROSPECT, COOK COUNTY, ILLINOIS:

SECTION ONE: That, subject always to the approvals required of Section 9.202 and Section 9.203 hereinabove mentioned as well as subject always to the conditions hereinafter stated, the perpetual license, right, and authority be and the same is hereby granted and given to the Metropolitan Sanitary District of Greater Chicago (hereinafter referred to as "Sanitary District"), to construct, reconstruct, repair, maintain, and operate the Tunnel and Reservoir Plan, Rock Tunnels and Drop Shafts, Weller Creek, Central Road to Elmhurst Road and Elmhurst Road, Upper Des Plaines No. 20, Contract 73-317-2S; Tunnel and Reservoir Plan, Rock Tunnels and Drop Shafts, Weller Creek and Feehanville Ditch, Lonnquist Boulevard and William Street, Upper Des Plaines 21, Contract 73-320-2S; Tunnel and Reservoir Plan, Earth Tunnel, Weller Creek, Mount Prospect Road, Princeton Street and Wolf Road, Upper Des Plaines 20-B, Contract 73-319-2S; and Tunnel and Reservoir Plan, Connections and Laterals, Weller Creek, Various Locations, Upper Des Plaines 20A, Contract 73-318-2S; together with the appurtenances thereto, hereinafter designated as "Coneyance Facilities" upon, under and through those certain streets, highways, public lands, public rights-of-way, and public easements of the Village of Mount Prospect, (hereinafter referred to as "The Village") within the territorial limits of The Village traversed by said Conveyance Facilities, which rights-of-way within said territorial limits are shown upon a map attached hereto and hereby made a part hereof as Exhibit "A" and which rights-of-way are described as follows to wit:

> That portion of Elmhurst Road lying within the corporate limits of the Village of Mount Prospect bounded on the South by Dempster Street and on the North by Council Trail: the West Half (1/2) of Elmhurst Road bounded on the North by a point approximately 720 feet South of the center line of Dempster Street and on the South by

Oakton Street; those portions of Council Trail, and Manawa Trail, bounded on the East by Elmhurst Road and on the West by We-Go Trail (extended); and that portion of Weller Lane bound on the North by Central Road and on the South by a point approximately 417 feet South of the South line of Cleven Avenue in Sections 23, 14,13,12 and 11 in Township 41 North, Range 11, East of the Third Principal Meridian and also in Section 33, Township 42 North, Range 11, East of the Third Principal Meridian, Cook County, Illinois; and also

That portion of Lonquist Boulevard between Elmhurst Road and a point approximately 120 feet East of the East line of Albert Street in Sections 12 and 13, Township 41 North, Range 11, East of the Third Principal Meridian, Cook County, Illinois; and that portion of William Street between Lonnquist Boulevard and Isabella Street in Section 12, Township 41 North, Range 11, East of the Third Principal Meridian, and in Section 34, Township 42 North, Range 11, East of the Third Principal Meridian, all in Cook County, Illinois, and also that portion of Isabella Street between William Street and Edward Street extended and that portion of Gregory Street between Rand Road and a point 505.00 feet East of the West line of Section 35-42-11, all in Sections 34 and 35, Township 42 North, Range 11, East of the Third Principal Meridian, Cook County, Illinois; and also

That portion of the West Half (1/2) of Mount Prospect Road between a point approximately 250 feet South of the South line of Prospect Avenue and the South line of Milburn Avenue in Section 12, Township 41 North, Range 11, East of the Third Principal Meridian, Cook County, Illinois; and also

That portion of Lincoln Street between Weller Creek and Kenilworth Avenue in Section 11, Township 41 North, Range 11, East of the Third Principal Meridian, Cook County, Illinois; and also

That portion of Central Road between Weller Creek and Bobby Lane in Section 11 of Township 41 North, Range 11, East and Section 33 of Township 42 North, Range 11, East of the Third Principal Meridian, Cook County, Illinois; and also

Those portions of Can-Dota Avenue, Na-Wa-Ta Avenue and See-Gwun Avenue between Council Trail and Manawa Trail in Section 11, Township 41 North, Range 11, East of the Third Principal Meridian, Cook County, Illinois; and also

That portion of We-Go Trail not heretofore vacated by the Village of Mount Prospect which lies between Shabonee Trail and Manawa Trail in Section 11, Township 41 North, Range 11, East of the Third Principal Meridian, Cook County, Illinois; and also

Those portions of Manawa Trail between Na-Wa-Ta Avenue and Wapella Avenue and between I-Oka Avenue extended and Elmhurst Road in Section 11, Township 41 North, Range 11, East of the Third Principal Meridian, Cook County, Illinois; and also

That portion of William Street lying within the intersection of Berkshire Lane and Weller Creek in Sections 12 and 13, Township 41 North, Range 11, East of the Third Principal Meridian, Cook County, Illinois.

SECTION TWO: That the location, size, and manner of construction of the Conveyance Facilities shall be in accordance with plans and specifications prepared by the Sanitary District, as approved by the Mayor and Board of

Trustees of the Village of Mount Prospect.

SECTION THREE: That the rights hereby granted to the Sanitary District are so granted upon the following conditions:

A. That the Sanitary District shall, at its own expense, make such changes in the location of the police and fire alarms and street lighting, and electric wires of The Village as may be rendered necessary by the construction of the Conveyance Facilities of the Sanitary District.

B. That the Sanitary District shall, at its cost and expense, install all such safety devices and traffic control signals as may become necessary and required by The Village for the public convenience, health and safety, as a result of any routing or rerouting of traffic caused by the construction contemplated in this Resolution.

C. That the Conveyance Facilities of the Sanitary District shall be constructed, reconstructed, repaired, and efficiently maintained and operated solely by the Sanitary District at its sole expense and cost; and The Village shall not be held responsible in any manner for the location or manner of construction, reconstruction, repair, or operation of the same.

D. That the Sanitary District shall defend, protect, indemnify, keep and save harmless The Village, its Mayor, Trustees, officers, agents, employees, contractors and sub-contractors and/or their employees against all claims for damage to real and personal property as well as against all injuries, liens, suits, liabilities, judgments, costs, expenses, and attorneys fees suffered and/or incurred by The Village, its Mayor, its Trustees, its officers, its agents, its employees, its contractors and sub-contractors and/or their employees, and/or its citizens which claims, injuries, deaths, losses, damages, liens, suits, liabilities, judgments, costs, expenses, and attorneys fees may directly or indirectly be incurred, suffered, and/or arise by or from the construction, reconstruction, repair, maintenance and/or operation by the Sanitary District of the Conveyance Facilities. The Sanitary District shall defend, indemnify, and hold The Village and/or citizens thereof harmless from any and all liability, cost, or expense resulting from the failure of the Sanitary District to keep and perform the foregoing covenant.

E. That the Sanitary District shall, at its sole cost and expense, restore to their former condition of usefulness the pavements of all streets, public alleys and highways, as well as all other structures, shrubs, trees and sod which may be disturbed or interfered with or damaged by the construction, maintenance, repair, or operation of the Conveyance Facilities, as well as all walks, crosswalks, curbs, gutters, catch basins, and ditches as soon as practicable, and shall thereafter maintain such restoration from time to time as may be necessary, but not to exceed two (2) years. All surplus excavation and other spoil shall be removed from the paved streets, public alleys, and highways by the Sanitary District.

F. That The Village does hereby order and direct all persons, partnerships, or corporations which shall at the time of the

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construction of the Conveyance Facilities own, operate or maintain any conduits, wires, poles, pipes, gas mains, cables, electric, steam and street railway tracks and equipment or other structures within any portion of the streets, public alleys and highways to be excavated in the construction of the Conveyance Facilities, at his, its, or their own expense, to make such changes in the location of such conduits, wires, poles, pipes, gas mains and cables, electric, steam and street railway tracks, and equipment or other structures as may be rendered necessary by the construction of the Conveyance Facilities.

G. That the Sanitary District and its contractors are hereby given and granted the right to use in the construction of the Conveyance Facilities such motor trucks, excavators, hoisting engines, and other plant, equipment and materials as may be necessary for the complete construction of said work.

H. That the Sanitary District shall, at its own expense and cost, make such alterations in the location of the water mains of The Village as may be rendered necessary by the construction of the Conveyance Facilities of the Sanitary District. And in all such cases, where it shall become and be necessary that water service pipes be removed, cut off, or damaged in any way on account of the construction of the Conveyance Facilities, the Sanitary District shall remove, alter, repair, and replace such water service pipes at its own cost and expense, providing any water service pipes disturbed shall be replaced by the Sanitary District; provided, however, that all work done on said water mains and water service pipes shall be subject to the approval of the Village Engineer.

I. That The Village shall give, grant, and issue without fees or cost therefor, to the Sanitary District or to any contractor to whom this work or any part thereof specified in this Resolution shall be awarded, all permits or licenses required for doing said work upon application and shall not require the Sanitary District or its contractors to deposit any sums of money required under any ordinance of The Village for similar work and, further, shall not require the payment by the Sanitary District of any fees or salaries for inspectors employed by The Village on said work. Water shall not be furnished the Sanitary District or any contractor to whom said work or any part thereof shall be awarded, unless and until construction meters have been paid for by the Sanitary District and then all water needed in the performance of said work shall be paid for by the Sanitary District at the then regular rate charged by The Village to its consumers, all said water to be measured through meters furnished as aforesaid by the Village at the expense of the Sanitary District or its contractors.

SECTION FOUR: That this Resolution shall be in full force and effect from and after its passage and approval in the manner provided by law.

AYES: 5

NAYS: 0

PASSED and APPROVED this 18 day of FEBRUARY, 1975.

/s/ Robert D. Teichert
Mayor

6-194

ATTEST:

Donald W Gardner
Village Clerk

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

I, DONALD W. GOODMAN, do hereby certify that I am the duly qualified and acting Village Clerk of the Village of Mount Prospect in the County and State aforesaid, and as such Village Clerk I am the keeper of the records and files of the Board of Trustees of said Village.

I do further certify that attached hereto is a full, true and correct copy of RESOLUTION NO. 7-75 duly adopted by the Board of Trustees of the Village of Mount Prospect, Cook County, Illinois, at its legally convened meeting held on the 18th day of February, 1975, and that at the time of adoption of said RESOLUTION NO. 7-75 the Board of Trustees voted as follows:

AYES: 5
NAYS: 0
ABSENT: 1

all as appears in the official records of said Village in my care and custody.

Dated at Mount Prospect, Illinois, this 4th day of March, 1975.

Donald W Goodman
Village Clerk, Village of Mount Prospect
Cook County, Illinois

THE CITY OF GOOD NEIGHBORS

Village of Arlington Heights
MUNICIPAL BUILDING • 33 S. ARLINGTON HEIGHTS ROAD 60005
Area 312/253-2340

STATEMENT IN SUPPORT OF THE NEW SEWAGE COLLECTION AND TREATMENT FACILITIES PROPOSED FOR THE NORTHWEST SUBURBS BY THE METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO

MARCH 31, 1975

THE ARLINGTON HEIGHTS VILLAGE BOARD HAS VOTED UNANIMOUSLY TO SUPPORT THE PROPOSAL BY THE METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO TO CONSTRUCT A DEEP TUNNEL SEWAGE COLLECTION SYSTEM AND A NEW SEWAGE TREATMENT FACILITY FOR THE NORTHWEST SUBURBS. THE PROPOSED SYSTEM WILL IMPROVE THE ENVIRONMENT IN ARLINGTON HEIGHTS BY PREVENTING THE BACKUP AND FLOODING OF COMBINED SEWAGE AND RAIN WATER INTO RESIDENTIAL BASEMENTS AND STREETS DURING HEAVY RAIN STORMS. SUCH FLOODING HAS OCCURRED PERIODICALLY FOR MANY YEARS IN ARLINGTON HEIGHTS AND HAS BEEN HAZARDOUS TO THE HEALTH AND WELL-BEING OF OUR CITIZENS. THE SEWAGE BACK-UP IS LARGELY DUE TO THE HIGHLY INADEQUATE SEWAGE COLLECTION AND TREATMENT FACILITIES WHICH NOW EXIST.

THE PROPOSED NEW DEEP TUNNEL SYSTEM AND THE SEWAGE TREATMENT FACILITY WILL ALSO PREVENT THE PERIODIC POLLUTION OF WELLER CREEK, WHICH OCCURS WHEN COMBINED SEWAGE AND RAIN WATER OVERFLOW INTO WELLER CREEK DURING EVEN MODERATE RAIN STORMS. THE POLLUTION OF WELLER CREEK CAUSES A PERSISTANT ODOR PROBLEM ALONG WELLER CREEK AND IS HIGHLY DETRIMENTAL TO THE ENVIRONMENT OF THE RESIDENTS NEAR THE CREEK.

THE VILLAGE BOARD OF ARLINGTON HEIGHTS BELIEVES THAT THE PROPOSED NEW DEEP TUNNEL SYSTEM AND SEWAGE TREATMENT FACILITY SHOULD BE CONSTRUCTED AS SOON AS POSSIBLE TO OVERCOME THE HAZARDS OF FLOODING AND POLLUTION WHICH ARE NOW BEING EXPERIENCED IN THE ARLINGTON HEIGHTS AREA.

RESPECTFULLY SUBMITTED,

Frank Palmatier

FRANK PALMATIER,
VILLAGE TRUSTEE
CHAIRMAN, FINANCE COMMITTEE
CHAIRMAN, CITIZENS ACTION
COMMITTEE AGAINST FLOODING

Devonshire Area

I. DIV. - GAB
75 2 PM 2:40

April 20, 1975

Mr. Francis T. Mayo
U. S. Environmental Protection Agency
230 South Dearborn
Chicago, Illinois 60604

Dear Mr. Mayo:

The attached petitions were presented to Congressman Crane's Administrative Assistant at the March 31, 1975 USEPA Public Hearing and are now being submitted as comment on your draft Environmental Impact Statement. Please incorporate the petitions into the final EIS document.

The petitions were circulated by the following citizens in the Devonshire and Waycinden areas:

Pat Lutsch
Pat Alfano
Alice DeSilvia
Sorrell Pischke
Diane Ruh
Sandy Gualano
Jean Arredia
Judy Janczak
Nancy Janczak
Karen Frahm
Terry Lipa
Toni Burdi
Camille Dressel
Loretta Anthony
Fay Butler
Dolores Hermansen
Virginia Lonigro
Audrey Munger
Pat Yaccino
Ann Yurkiewicz
Lucille DiCianni
Barbara Davison
Norma Kalb
Angie Cozzi
Virginia Rospond
Ann Randall
Shirley Campanella
Ilene Arshonsky
Diane Losinski
Florence Adamczyk
Stacia Choroznak
Gerry Francione
Dolores Leuthner
Al Barry
Don Dvorak
Pete Lazzara
Richard Brown
William Kent
Michael Opager
David Cox
Donald Argus
Robert Argus
Martin Cain
Dan Lutsch
Allen Dvorak
David Cox
Jim Conrad
Gregg Ochab
John Jamrozik
Jack Wilds
David Wilds
Brian Friberg

We anticipate your objective consideration of the O'Hare structure. Thank you.

Very truly yours,

Rosemary Argus

Rosemary Argus
495 Courtesy Lane
Des Plaines, Illinois 60018

Petition to the Honorable Philip M. Crane
Congressman 12th Congressional District

WHEREAS the Metropolitan Sanitary District of Greater Chicago is proposing to construct a sewage treatment plant having a capacity approaching 100 million gallons a day and described as the O'Hare Water Reclamation Plant in surburban Cook County within the City of Des Plaines and within the 12th Congressional District;

WHEREAS the residents of the area and the City of Des Plaines have opposed location of such plant at the proposed site for at least eight years because of the dangers to the public health and the odor nuisances associated with such plant;

WHEREAS the Sanitary District has publically indicated that in building the proposed plant it will not take the necessary precautions to limit the emissions of odor or air-borne pathogenic bacteria from the plant so as to avoid a serious hazard to public health; and

WHEREAS the Sanitary District is now seeking Federal funds to construct such plant;

NOW THEREFORE, we, the undersigned, hereby petition you to to take all necessary steps to prevent the expenditure of Federal funds for the construction of the proposed plant which will create a potential threat to the public health and particularly to the citizens now living within the immediate area of the proposed plant.

Name	Address
Lorraine E. Lillis	229 Anderson Ter Des Plaines
John J. Lillis	229 ANDERSON TER SO DES PLAINES
Patrick M. Davidson	219 ANDERSON TER. S D.P.

CHAPTER 7

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